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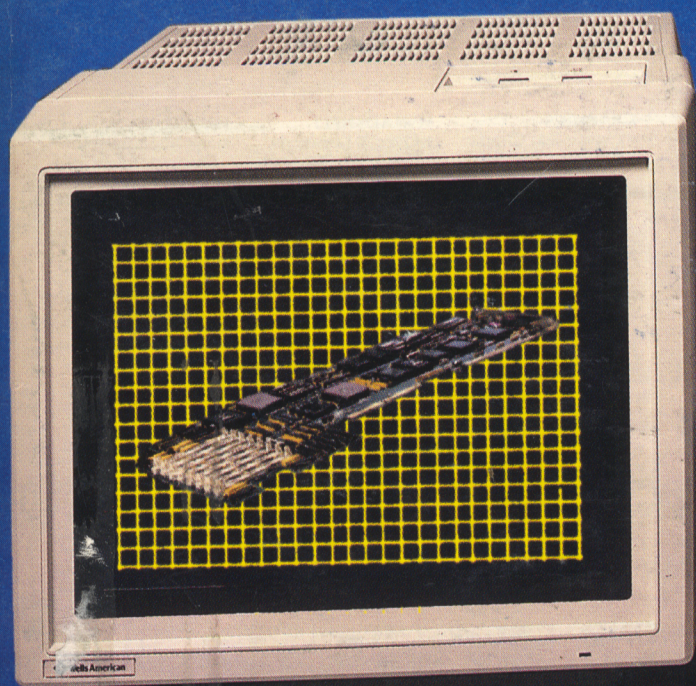
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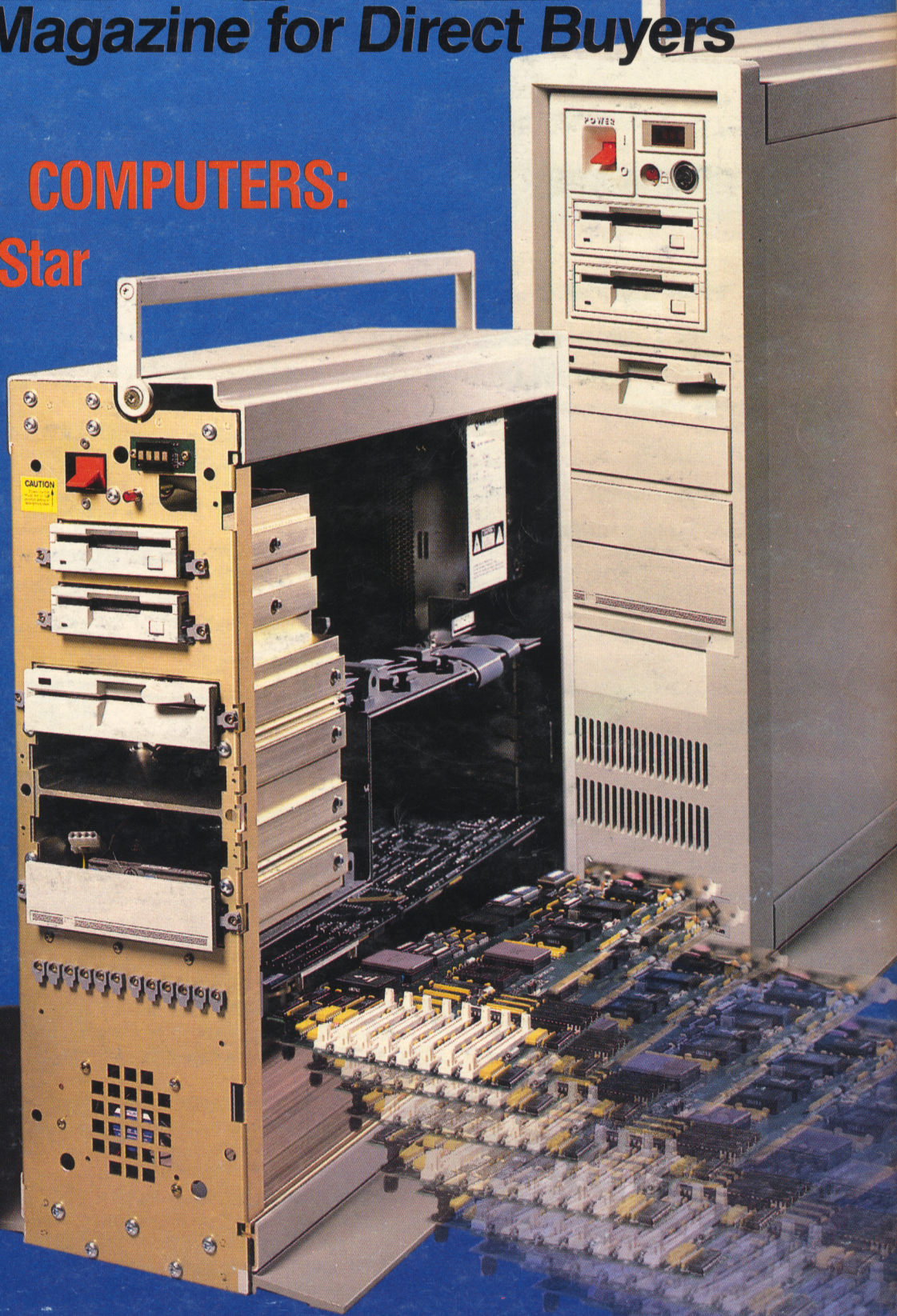
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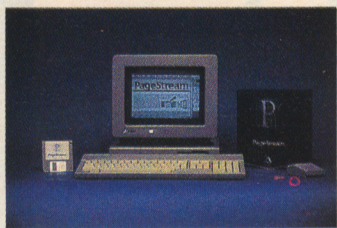
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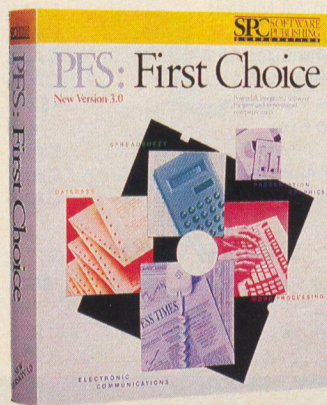
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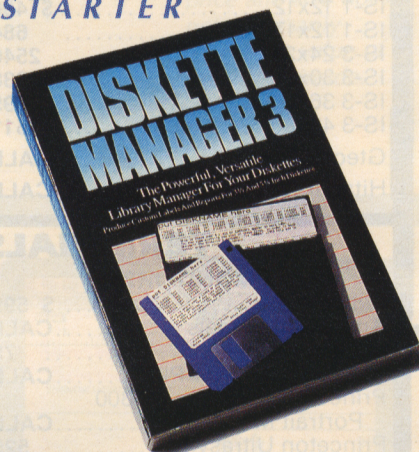
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ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST

PLACING ANOTHER C-SHELL TO OUR CRITICAL EAR

by D.F. Scott

The ST was certainly designed with the packaged program user in mind. Skipping merrily through most ST programs can be about as treacherous as mountain-climbing in the Australian Outback. Once one decides to seriously program the thing, though, she generally finds herself staring deeply into a dark, austere cave. GFA and LDW BASIC shine as small beacons of hope, which admittedly grow ever dimmer as their compiled products pertinaciously perforate the ST's memory layout. Enter the realm of C, and suddenly the grey slab of technology grows bitter cold. The generally busy bee is, for the most part, supplanted by an emotionless, relentlessly-blinking cursor whose tidings spell out—generally in error code numbers—the adequacy or failure of several hours worth of personal configurative effort.

It's obvious that C's originators—primarily Ken Thompson and Dennis Ritchie—did not intend for C to be so rigid and intolerant. On most UNIX systems with a big screen and true multi-tasking, the C-shell allows compilation to take place while the system is running fifteen other tasks. The C preprocessor is the perfect tool for the

modification of C's command syntax. Nonetheless, on the ST the act of compilation is fairly easy, at least compared to the act of reciting Chaucer underwater. The programmer is entrusted with the daunting task of remembering the parameter syntax and sequence for the various forms of command lines, and then designating the locations for the input and output of object files, hex files, quad files, #include files, symbol tables, and textual merging extensions. The friendliness of the operation of most ST programs has yet to be extended to the realm of lower-high-level language programming.

One program which takes a bold step in that direction is P.A. Beskeen's C-Breeze, which is a hybrid C-shell and text editor. It lets the programmer create one, or even as many as six, lengthy and detailed source code files using an editor dedicated to C, and then compile and link them using whatever C system he owns while only briefly leaving the comfort of the shell.

The first lesson learned by a programmer of a GEM or GEM-like text editor is that the update speed of text within a real GEM window is dreadfully slow; without the aid of a blitter or Turbo ST, it can be slower than a 4800 baud terminal. Some of the most

successful ST programs have been those which sought to overcome this problem—among them Flash, whose terminal screen, you may have noticed, bears no GEM window features, while its capture buffer window is laden with them. Eidersoft's Tempus, perhaps, has received the highest critical acclaim for overriding and overcoming the sloth of GEM; although earlier versions were curiously unable to recognize the apostrophe (') as a legitimate keystroke. Perhaps German programmers refrain from the use of contractions in their remark statements, but historically it's the Americans who don't stop contracting.

C-Breeze's subversive engineering around GEM is quite commendable, allowing the source code author to view up to six active documents, instead of the usual four which has been the classic GEM limitation. Furthermore, a seventh window is allowed for a memory-resident ACCessory; although the user would be best advised to operate window #7 with extreme caution. A few times during my test with six "tiled" windows (explanation to follow) and the Control Panel accessory, C-Breeze forgot which of its six windows was topmost in heirarchy after the Panel was deactivated, and subsequently crashed.

I must admit, though, that these crashes occurred while my semiautomatic right wrist was running what I call the "five-year-old kid emulator program"—in other words, I took the mouse and carefully went mad with it. Many programs survive the five-year-old emulator; C-Breeze failed only during the appearance of the Seventh Window (sounds like a Stephen King novel, no?).

The main achievement of C-Breeze is that it offers a partial solution to the problem of memorizing text-editing commands whose keystrokes require more limbs than the ordinary hand has to offer. The solution is total and complete user command configuration through the use of a background macro language. The program keeps a configuration file which contains, among other things, a list of which keys perform what functions. This file, named CBREEZE.CFG, is loaded into the program upon startup, and is editable as straight text by the program itself. It is read as a straight list, top-to-bottom, without conditions or nesting—so the syntax is really rather simple.

In the macro language there are four keyterms. REM is self-explanatory; it's a header for often needlessly-verbose non-executable remarks. REM statements give repressed programmers a

INTERLINK ST 1.85 & MULTIXY.ACC 4.0

by Frank and Sally Nagy

Modem users don't need to leave their computer tied up on hold. Now, time consuming telephone computer link-ups won't leave you twiddling your thumbs. InterLink ST's background downloading treats you to the power to do more than one thing at a time. Compose that long overdue letter, do some serious programming or allow yourself the luxury of playing a game while waiting for an information transfer.

InterLink ST's tele-communication package offers quick and powerful modem applications via GEM menus, dialog boxes and function keys. Set up desired options easily. The many features of Intersect Software's InterLink ST can be viewed by the mere pressing of the HELP key. With that touch comes immediate online explanations of command key operations. Opening screen displays show easy to reset modem parameters, initialization, dialing prefixes, and the like.

InterLink's Auto Dialer stores 20 favorite BBS numbers. Auto dialing until connection, group dialing of several BBSs, and Auto logon are all available. When trying this out, our system required addition of the ATDP prefix before each of the phone numbers to initialize the dialer. Highlighting both the AUTO and DIAL buttons are necessary for finally connecting to a BBS. There's no need to re-type the same

answers each time you log on. The Auto feature can be prepped to interface each of those 20 BBSs without bothering you again. In other words, each number and subsequent link is programmable to fit each BBS's logon and prompt requirements. This modem program is so designed to operate without nursing it along.

With a click of the mouse, the online screen appears to display 80 columns by 24 lines. Screen prompts, including a type ahead buffer line, alerts the user to his modem status.

Type ahead buffers are especially nice for use in online conferences. Everyone has seen what happens when half of one message is mixed in with others. It can be awfully confusing to follow. Whole text blocks can be sent at one time, rather than being broken up just because you didn't type fast enough.

Besides the Xmodem (CRC and Checksum), Ymodem, Ymodem batch, QuickB and ASCII file transfers, InterLink allows "loadable" file transfer protocols. Atari 8 bit BBSs require InterLink's MULTIXY.TXF multi-tasking Xmodem/Ymodem file transfer. After loading MULTIXY.TXF and its Desk Accessory, ILNMULTI.ACC for background file transfers, one can then use Execute Program to accomplish other tasks with the remaining memory.

Keep in mind that some programs won't have enough room to load and others like self-booting games will try

to encroach on functions taken up by the ongoing modem program. We found it worked just fine with First Word word processing. You'll have to experiment to see what "behaves" within your system.

Store data to block, buffer, or disk. Find emulations, VT52, VT100, PC-ANSI Graphics, ATASCII Graphics and IBM 3101 as standard Communication protocols. The company claims that when new protocols become available InterLink will allow you to load and use them as well.

Created and tested terminal emulations and file transfers have been uploaded to most major networks. GENIE's Atari Roundtable and InterLink's own BBS (813) 924-4590 are a couple that we know have them.

Disk Commands come in handy for those times you find yourself without a formatted disk free. Set it to format single or double sided with either drive A or B. You also have the option for 400K per side. Also while within InterLink, rename, copy, delete, create folders, check on bytes free, print and show files.

Remote access allows executive access to your computer from another location. Leave and receive messages or upload and download files. Three levels of passwords prevent hackers from access. Outsiders trying to crack your system will also be thwarted by files saved to undetectable folders. Now you

can have that personal BBS you always wanted.

An excellent text editor and buffer allows word processing copy, move search and other commands. Quickly edit the buffer just captured. Under the Editor option of the menu use the clipboard program which autoboots from the AUTO folder. A clipboard is a way of exchanging data between programs using hidden files on a hard disk or floppy disk drive. Within InterLink a selected block will be copied to the clipboard, to the cursor, or emptied.

Define InterLink's twenty user function keys to send text or activate recordings.

Use the call logging and time cost calculator to keep track of long distance or pay BBS service charges. More details about this file is found on the disk, folder DOCUMENT, INTERLOG.TXT.

The 20+ minutes it takes to download a 200,000 byte file does not have to remain computer downtime. Put that extra memory you paid for to productive use. MULTIXY.ACC allows background downloading while executing another program in the foreground (memory permitting and with GEM compatible programs).

InterLink supports Atari ST and Mega color and monochrome monitors. Hayes and Hayes compatible modems with Xmodem, Ymodem and Batch Ymodem protocols are supported. Others may work, but their correct

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► PLACING ANOTHER C-SHELL TO OUR CRITICAL EAR

chance to let off some steam, in English. For instance, take the phrase, "REM The following block of commands should make life easier for all of us."

AUTO is always the first command in the sequence, and acts as a header for a paragraph detailing the preferred initial set-up of the program—a simplified version of the DESKTOP.INF file, in a sense. The phrases following AUTO—which are part of the overall vocabulary of C-Breeze configuration—are not perplexing acronyms but whole words, hyphenated into single units. Delete-file, goto-edge-right, capital-word, and check-128K-free are but a few examples of 121 keyphrases reserved for command customization, and even compounding.

Whenever examining a new computing language—whether it be a simple macro language like C-Breeze's or a new permutation of Modula-2—in order to measure the applicability of its statements, it's always best to examine them in the form of sentences. In C-Breeze's case, the keyterm and its operand, if it has one, would be the sentence's subject; and the command phrase would be the active verb. Example:

```

BIND      A&P      previous-fn

```

The keyterm here is BIND, and its operand is "A&P"—which, in this case, is not a supermarket but C-Breeze shorthand for the keystroke [Alternate]-P. The word BIND is truly a verb; but in this case, BIND A&P act jointly as the subject of this sentence, and previous-fn the active verb. A&P is what it is; previous-fn is what it does. In this case, after the user presses [Alt]-P, the ac-

tive window will seek the beginning of the C function or procedure previous to the current cursor location.

The sentence structure thus far has a subject and verb, but no object. In the previous statement, we could consider previous-fn an intransitive verb—its function is self-explanatory. In the case of this statement:

```

BIND      A&D      delete-file

```

C-Breeze does not yet know what file to delete. The object, in this case, must be supplied by the user through the aid of a file selector box or dialog box; but if the user would prefer the keystroke cause a particular file to be deleted in every case, he could instead supply the object within the statement itself, in this manner:

```

BIND      A&D      combine delete-file 'slop.txt'

```

Now, suppose the C-Breeze user happens to be a chronic source code proof-reader himself, and likes to save all the deletions he makes in a special file called "SLOP.TXT." C-Breeze already has a feature for memorizing deletions; it can be engaged with the phrase "remember-deletes," and all deletions can be viewed in their own separate window with "view-deletes" (the manual incorrectly calls this "view-deletions," by the way). He would then write this phrase, containing a compound verb, into his configuration file:

```

BIND      A&G      view-deletes combine save-file +
                    'slop.txt'

```

Notice that in the compound phrase, there is no punctuation beside the spaces separating terms, the optional plus sign between verb and object, and the single-quotes denoting the file. The C-Breeze

parser knows to distinguish the A in "A&G" from the A key on the keyboard. If we wanted to use the keystroke [Alt]-[Shift]-[Ctrl]-G instead, the user would've written, "A&S&C-&G."

The parser also distinguishes keypad numbers and punctuation from their number-bar counterparts on the typewriter part of the keyboard, by the placement of a K before the key, as in "K9" and "K*." The user can utilize this distinguishing mark to configure his keypad to behave like that of a PC XT with its "numlock" turned off. Function keys are similarly preceded by an F; and the keys UNDO, INSERT, and DELETE are recognized in that manner. LEFT, RIGHT, UP, and DOWN denotes the cursor control keys; so every key scannable is covered by the C-Breeze parser.

This quick note: The internal deletions file doesn't appear to remember simple character and line deletions—that is, until the [Alt]-D keystroke (default command phrase "delete-block") is pressed, whereupon all or at least some of the character/line deletions show up, tardy though they may be, in the deletions window.

The user's choice of window arrangement is another of the unique achievements of this program which, with my permission, could be borrowed by word processors and terminal programs. Two or three windows can be "tiled" using a menu selection, so that each consumes equal space but fills all space available to it. Two windows may instantly be apportioned for the same file, so that the viewer may see two parts of it simultaneously without having to load the same file into memory twice. Finally, in what constitutes perhaps the most ingenious single enhancement to GEM in all of 1988, up to six windows can be stacked so that the lowest window occupies most of the screen, while leaving room for just the title bars of all the other windows previously opened. Clicking the mouse pointer on a title bar above the active window forces that window to trade places with the lower, more visible, one. This way, all window titles are always visible, and any inactive title may be viewed without covering up some other window entirely, and without having to fool with the window resizing button.

The third real achievement of C-Breeze is the customizable menu. The user can actually create his own menu selections, virtually on the fly, with the configuration keyterm MENU. The "Custom" menu is on the far right of the upper bar—the last of no less than ten menus. With the keyterm, the user can configure C-Breeze to act as a compilation, linking, and debugging shell for his own C system. MENU definitions, once saved and reloaded as part of the configuration, are translated into the GEM resource file of the program instantly, and also become instantly available selections in the program in memory.

This certainly was not an average

programming feat for author P. A. Beskeen. GEM does not like its resource files tinkered with, especially when they're in memory. Were similar modifications made to something more fragile—say, a custom object tree—the program, if not the computer itself, would surely have exploded. Certainly that feature wasn't programmed in C.

Getting the MENU configuration portion of C-Breeze to recognize the syntax of one's own C compiler is about as simple as programming in assembly. Beskeen supplies a bountiful set of extra MENU commands for hooking C-Breeze into Megamax, Williams, Hi-Tech, and Lattice C. The real trouble is, there have been so many different versions of each of these compilers, that the user may find herself endlessly reconfiguring her configuration—which is not the most enjoyable way to spend the wee hours of one's morning.

My first C compiler was Haba Hippo-C. Before you laugh too hard, realize that this was the first and only C compiler one could obtain during those trying months of early 1986. I returned it to the store after I, my eyes having grown weary from reading small print, realized that it would not recognize "some" (read: any) floating-point arithmetic operations. The first real C compiler for the ST was Antic's release of Lattice C; so I snatched it up instantly, already familiar with the prestige associated with the name (Lattice). Since it was an early release, it does not have some of the options, nor does it have the menu shell and debugging aid, of its younger, newer counterpart. It also does not have, I'm told, the extra bugs given it by MetaComCo—the geniuses who gave you that all-time favorite, the ST BASIC interpreter.

The relationship between C-Breeze and Old Lattice, at first, would've confounded even Sigmund Freud. I have my old single-sided drive as A and my double-sided as B, and I had my compiler and GST linker on two separate disks. First, I learned the "-g" option being supplied to Lattice by C-Breeze's "execute" phrase wasn't documented in my Lattice manual. Taking "-g" out of the command line seemed to make things worse, so I put it back in. I realized later that even though the "execute" command was telling C-Breeze to save the source code to A: before compiling it, it could not save something to the same drive the compiler would be executing from.

So I ran the compiler from B:, then realized "-g" really was not supported by Old Lattice after all. Extracting it, I then learned my system would then refuse to run the linker from the second disk placed in B:, because C-Breeze would forget to update its active directory—so as far as it was concerned, the linker did not exist. After copying my compiler and linker to one double-sided disk, and editing all my MENU phrases so that my quad files, symbol

continued to page 254

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operation is not guaranteed by the company.

InterLink's built-in shell facility was designed to promote simultaneous execution of other programs with InterLink. Upon exiting the other program you should once again be in InterLink.

The manual suggests an excellent reason to use the execute program option: ARCing or UNARCing a file before sending it. However, after downloading using Ymodem batch file transfer, we received the data from the first files unarced but later ones couldn't be unarced. The disk directory also displayed some new inaccessible folders full of garbage.

A Recorder feature automates many tasks. As the recording plays, InterLink interacts with the host computer. It waits for prompts and responds accordingly. Assign function keys with recordings or have them set to play later while you are doing your thing elsewhere. InterLink's jacket suggests that you can call a service, capture data, logoff and then print it.

When we tried these functions, they all worked great.

While we noted the manual lacked clarity, we found Intersect Software Corporation more than ready to supply users valuable technical support. We feel that their 800 number offers a personal availability that goes a long way to cover information holes of this sometimes confusing manual.

We have found company representatives very cordial answering any questions we posed.

We're sure many people will love the freedom to use the computer while downloading. A program such as InterLink leaves a lot of room for other options!

InterLink ST, \$39.95.

Intersect Software, 2828 Clark Road, Suite 10, Sarasota, FL 34231; (800) 826-0130, (801) 923-8774.

Look for new products coming from Intersect.

Masterlink, \$59.95 is expected in March 1989. Users with InterLink ST will be able to upgrade their modem program for \$20.00. ●

ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST

ATARI ST NEWS AND COMMENT

by John Nagy

Promotions—remember them? They are back for Atari, at last. A dramatic advertising gimmick will put Atari ST desktop publishing in over 150 shopping malls nationwide this spring. In cooperation with Mitsubishi Automobile Corp., Atari will help launch the "Eclipse" model car, with an ST doing the presentation. Apparently, the viewers will be able to "design" the car, with the features they want, and have the ST print the specifications, a picture, and something convincing about the Atari as well, all on an Atari laser printer. This will be many people's first look at both the car and the computer. A contest will award an ST to a winner in each mall along the tour, and a complete desktop publishing system, laser and all, will be awarded as a national prize. With the lead time required for this column, I only have one set of dates that is relevant by distribution time: April 28-30 in the Golf Mill Shopping Center, Nile, Illinois. There will be lots more, and the local dealer representation for many shows is still up for grabs. Contact Sig Hartmann at Atari if you are interested.

Speaking of laser printers, Atari has released what is touted as a "PostScript Compatible Laser Printer" for under \$1500. What it is in actuality is the standard Atari laser, bundled with Ultrascript (by IMAGEN Corp in cooperation with Atari). Ultrascript is a very competent "clone" of the very pricey PostScript, and comes on a very unimpressive disk, in a shrink pack with a tiny manual. You will be able to buy Ultrascript alone for about \$300, but maybe not soon. It is initially only available as part of the printer package. Although simple to look at, Ultrascript will effectively make the Atari printer platform a real-life player in desktop publishing, with an effective price of half of that of other PostScript printers. Some reviewers continue to claim that the printer is "crippled" and "brainless," referring to the lack of onboard memory, but I for one appreciate the concept of putting the memory where you can really use it—in the computer! Having two or more MB of very expensive RAM in a printer that gets used maybe 10% of the time (if you print a LOT!) instead of in the computer (that is used 100% of the computing time) seems crazy in hindsight. "Someday, all computers will have 2MB, 4MB or more memory. Until then, there is Atari." Sounds like a commercial?

Oh! Commercials! Atari is finally airing real computer commercials on TV, not just 2600 ads! Although not in all markets, they have been noticed and commented on by viewers in many areas. It appears that Atari will make good on their commitment to "break into the US market" this year.

In other desktop publishing news, 12 new Calamus Fonts in 5 font families are now available in a thorough but

expensive set from ISD Marketing. The first Compugraphic Families should also be available, making Calamus a realistic option for professional printing shops, outputting directly to Linotype machines without the need for a \$20,000 raster image processor. Also expected soon from ISD is a Vector Graphic Clip Art Library containing 780 files. Calamus Plus, all the power of desktop publishing and a drawing/drafting program too, plus real PostScript output as a print option, is said to be proceeding smoothly towards completion. ISD Marketing imports Calamus from Germany, where it has over 7,000 registered users on the ST! ISD, 2651 John Street, Unit #3, Markham, Ontario, Canada, L3R 2W5, 416-479-1880.

Other DTP news: Fleet Street Publisher V.2 is available—again—from MichTron. I say again because it was initially imported from England by Spectrum Holobyte. However, it never really went anywhere since Spectrum made no effort to promote, improve, or even update the manual. MichTron now has the rights, and after quite a delay in preparing a new manual and making updates to the program to allow it to operate without GDOS (and even into PostScript

printers), Fleet Street Publisher is ready to make a dent in the middle-to-high end desktop market. *ST-World* magazine uses it almost exclusively to produce their entire publication. What's more, Version 3 may be out later this year, adding some of the thrills and frills found in Pagestream and Calamus (rotated text and graphics, etc.). MichTron also has a new font product called HyperFont, which is a font editor and converter, to make Fleet Street and/or GDOS fonts. MichTron, 576 S. Telegraph, Pontiac, MI 48053, 313-334-3553.

I am preparing a major analysis of the high-end competitors for the Atari Desktop Publishing market—it will appear soon. It's quite a project to learn 5 different packages well enough to test them competently, let alone different configurations to be meaningful!

Since we are talking about printing, let me mention a great little desk accessory that Darek Mihocka just whipped up—QuickPrint allows you to choose either the "normal" Atari screen dump, which is a graphics dump, or an ASCII text dump like IBM does. The text dump is years faster, since it can put a screen worth of text even in a small printer buffer, and let you move on with your work while the screen

prints. Much faster printing, too, and easier on your ribbon and ears. Why didn't someone think of this before? It makes screen printing into a viable option. QuickPrint is available on most telecommunication services and bulletin boards.

Darek has been busy again with his ST-Xformer, an Atari 8-bit computer emulator for the ST. He has just released Version 2.4, which offers speed improvement, 130XE emulation, and even modem support. Mihocka will be graduating from college next winter, and expects to move to the US from his Toronto home at that time. He warns us that he will have to "work" for a living then, and his public domain projects for the ST will likely take a back burner for a while. So enjoy their rapid-fire releases while you can.

Back to emulators? David Small, of Gadgets by Small, has a new product to accompany his Spectre 128 Macintosh emulator for the ST. To be introduced (although not necessarily for sale yet) at the April 22-23 World of Atari show in the Disneyland Hotel at Anaheim, California, it will be the GCR device we have been waiting for. At last, one will be able to run Mac software right off the virgin Mac disks, in real time, without translation or delay.

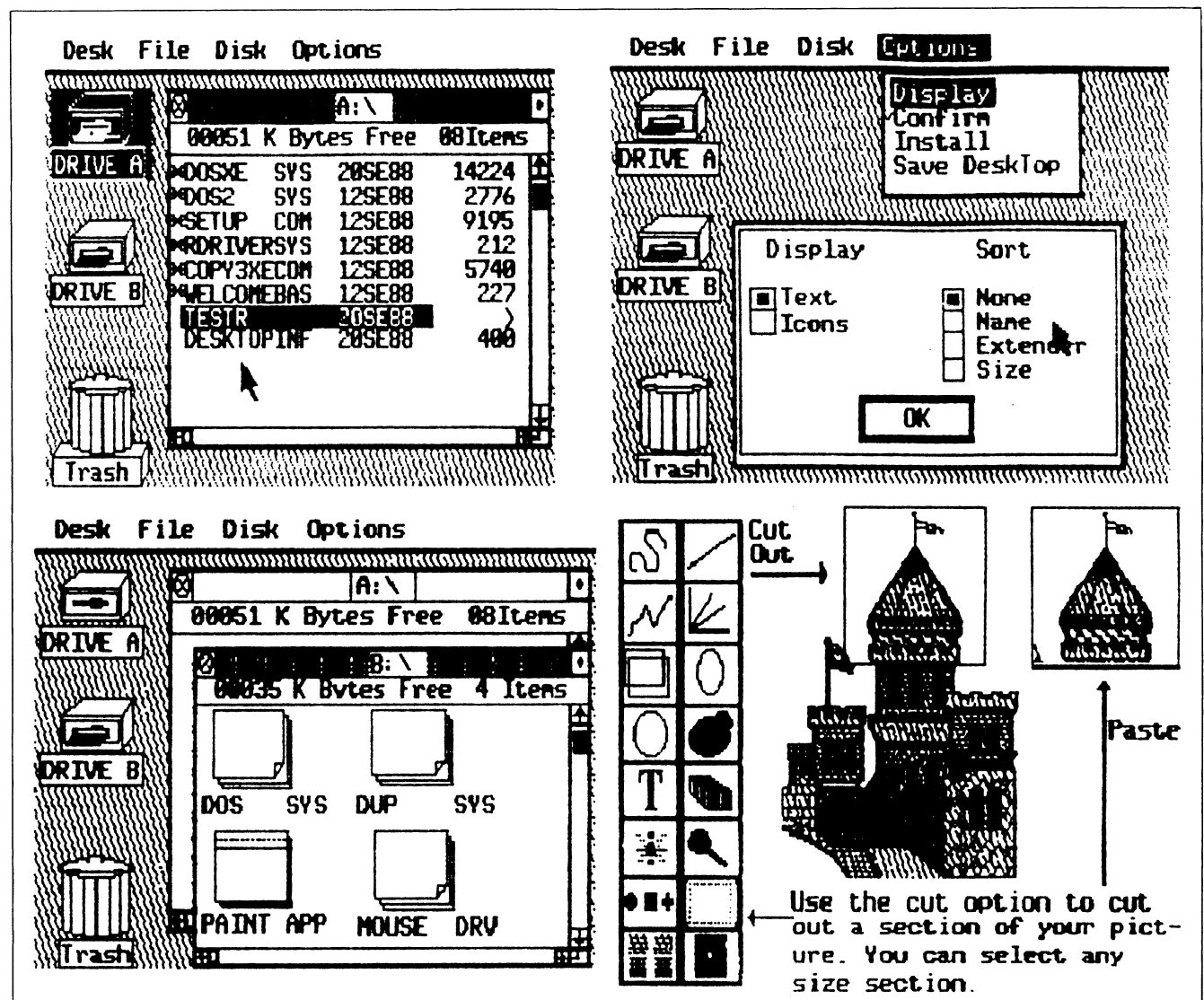


Figure 1—Diamond screens show similarity to the Atari ST-GEM system. Diamond Paint features cut and paste.

ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST

► PLACING ANOTHER C-SHELL TO OUR CRITICAL EAR

from page 252

tables, source code, and binary file would all be in A.; and my #include files, assembly link files, and object files were on B.; then C-Breeze finally worked in tandem with Old Lattice. Pardon me if I begin to sound like Jerry Pournelle after a long day at the Manor.

The C programming language is not user-hostile by nature; but C compiler for microcomputers generally are. In the PC realm, it appears many buyers are impressed with Microsoft Quick C and Borland Turbo C because of, first and foremost, their source-code-editing environments. Speed and accuracy be darned; they want a good procedural cut and paste, and an automatic nest tabulator. Certainly I'm not the kind who would spend \$150 just so I can have my nests tabulated; perhaps that's why I own an ST.

For \$49.95, C-Breeze will automatically tabulate whole nests, as well as put parentheses around functions or words in a single keystroke; place brackets around a procedure or block in one stroke; and skip merrily between the headers of procedures, recognizing where one ends and the other begins. It will not, however, perform syntax checking in the manner of, say, GFA Basic's built-in editor. If you think about

it, perhaps such a feature would be too demanding a request.

A veteran C source code author often uses her preprocessor to redefine her syntax to the form she chooses—much like rewriting C-Breeze's configuration file. A C syntax checker would have to keep track of the author's preprocessor definitions at all times; and would therefore be performing much of the work of a C interpreter. The author may choose, for some reason inexplicable even by the greatest psychiatrists of our time, to use "BEGINPROC" and "ENDPROC" instead of the traditional "{" and "}," if such preprocessor definitions are contained outside of the source code, in some external file by way of the command "#include <mydefs.h>," then how is the syntax checker to know what a PROC is when it sees one? The source code may end up reading less like a program and more like James Joyce's *Finnegan's Wake*; perhaps some day a quasi-literate mathematician may write the first C program ever in iambic pentameter. The syntax checker would have to be endowed with astute literary knowledge before it could even spot the first nest.

So the C text editor—which is destined to remain merely that—must

leave the job of sorting through rhyme and meter to derive logic to the cold, dictatorial compiler. The editor's job must remain textual and contextual; so in order to sell, its editing features must be outstanding. C-Breeze is billed as an editor which can be reconfigured to behave like any other editor—among them, the arcane EMACS. Indeed, extra BIND commands are supplied with the package in a subdirectory called \CONFIG which can make C-Breeze behave like EMACS. Trouble is, EMACS is free; and if you're a proud owner of Laser or Williams C, you already have it. Advanced versions of EMACS will recognize about 20 macro commands; so even that is, to some degree, user-customizable. Since those advanced versions are already supplied with the two compilers mentioned earlier, and both also include GEM shells which allow menu-bar switching between EMACS, compiler, and linker—and which don't need reconfiguration—for the owners of these packages, C-Breeze may be totally unnecessary.

A reasonable buyer might want to purchase C-Breeze because it utilizes text output windows more appropriately, and because he can put in keyboard text control where he wants it. I, most

likely, will use it to shift all my text editing commands to the numeric keypad. Picture that in your mind, for a moment, with the "(" key on the upper left and "Enter" on the lower right. I would like to re-bind my block denotation keys like so:

BIND	A&K(	mark-top
BIND	A&K&ENTER	mark-bottom
BIND	C&KO	cut-block
BIND	A&KO	copy-block
BIND	S&KO	paste-block
BIND	A&K*	delete-block

See how the upper-left and lower-right corners of the text block corresponds to the same corners of the keypad? Now, since "0" on the lower left is such a nice, big thumb button, it can be used for cut, copy, and paste; and "*" on the upper-right—where the right hand can't accidentally strike it—can be used for deletions. Not only would this mode of operation become second-nature for me, but it would also relieve the already-well-used main typewriter keys from having to double as editor keys. Why the first Macintoshes weren't shipped with numeric keypads is as much a mystery to me as why their screens had to be so small.

Operating as a shell for the execution of other programs is no longer such an amazing feature for ST programs;

► ATARI ST NEWS AND COMMENT

The Spectre already runs Mac software at 20% above the speed of the "real MACoy" and the GCR will make Mac emulation a snap. More on this product as it is released.

Another item to debut at the Disneyland World of Atari show is to be the new version of PC-DITTO, Bill Teal's full-speed IBM emulator. The current version is remarkably accurate and versatile, overall very usable for most PC programs, but in some functions runs as slowly as 5% of a "real" PC. The new version should be quite an upgrade, and is expected to use some kind of hardware device, either as a functional part of the system, or as a copy protection device, or both.

The World of Atari show is shaping up to be "the" event of the Atari year, and the roster of vendors is growing into a veritable roll-call of Atari supporters. Many vendors expect to show all-new products for the first time at the Disneyland Hotel event, and Atari has decided to throw a concert for Saturday night. Mick Fleetwood and Mike Pinder are two of the likely headliners. Admission will be by tickets to be distributed by vendors at the show Saturday. If you possibly can make it to this show, you will see 28,000 square feet of sheer Atari! I won't miss it, so if you do, I'll tell you about it anyway. Show owner Richard Tsukiji (also of *ST-World Magazine*) is also planning shows around the country, taking the

crew of the Disneyland event on the road. Detroit (June 24-25, 18,000 square feet at the Dearborn Hyatt Regency), Seattle, Salt Lake City, and Dayton are already in the works. Rich has decided to let groups that want a World of Atari show in their area contact him, rather than to plan more shows himself. This is to avoid any area where a group might want to launch their own show. (503)673-2259.

Piracy and the ST is a recurring subject around here, with many developers claiming there is not enough market to stand the piracy rate. The world is a few pirates shorter than it was a few months ago, though, due to a major bust of ST bulletin boards recently. At this writing, at least 12 had been raided already, with many more targeted by FBI and MCI investigators. Readers may remember "Ellwood" (not his real name), a Flint, Michigan BBS operator who dramatically accused ST-Report editor Ralph Mariano of piracy in a conference on Compuserve last fall. That attack turned out to be unsubstantiated fallout from a private dispute between Mariano and Ellwood after an unsatisfactory hardware deal. State Police raided 19 year old Ellwood's home in January and confiscated \$8,000 worth of computer equipment that they claim Ellwood used to illegally charge phone calls all over the world. Logs indicate 24 hour a day connections to Germany and other locations, using "hacked" credit cards, with a two week

total of scammed phone calls exceeding \$77,000.00! By my calculations, this one phone phreaker was burning phone credit card owners at the rate of over two million dollars a year.

Further warrants were sought to search for pirate software. Ellwood's name is being withheld by officials "pending charging" which may mean they won't charge him at all if he turns evidence on the credit card and piracy ring. Traces made during the monitoring may have resulted in the busts that followed Ellwood, with arrests confirmed in Tennessee and Florida. A sad testament to the success rate of such busts: we have heard that Ellwood was back on the phone within two days, using borrowed equipment to continue where he left off. Hopefully the phone company is listening and keeping notes.

A last note on the dangers of the phreaker/pirate subculture—a news item from the January *Washington Times* told of four teenagers who were killed in an explosion in a garage, apparently while making bombs using information found on area "phreaker" bulletin boards. These "filez" (text material) accompany the "warez" (pirate software) and "phreak" information on stolen or cracked credit card numbers. Parents, think about what your kids are doing on the computer when you aren't there. Parents often are faced with paying back the phone company when (more often than you might think!) minors are caught mak-

ing illegal charges. And think about those dead kids next time you partake in or fail to prevent some "petty" local piracy. The problem has grown beyond imagination. In its worst manifestations, a pirate ring is not even about software anymore, it is about power. Who has the biggest hard drive? Who has the most cracked phone card numbers? Who has the most outlandish "filez" on how to make a pipe bomb or how to terrorize an enemy, or where to get toxic chemicals?

While researching this material in an attempt to bring down a pirate network I had discovered, I was told frankly by an FBI supervisory investigator that I was putting myself at personal risk. The phreaker network is known for casually calling what amounts to "contracts" on individuals it doesn't like. It may be as simple as harassing phone calls or messing up a credit history, or as vicious as bombs or threats to family members. Most disturbing is the cavalier attitude of the participants, as though it is all just good fun. No payment or debt is usually incurred for "favors" in helping terrorize a victim, since the challenge seems to be to demonstrate ones' abilities to do it.

Piracy has become more than just a billion dollar crime—now it KILLS. Are you helping it?

That's all for this month in the ST news, be sure to read all the Atari information elsewhere in this issue of *Computer Shopper*. ●

ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST

and I'm afraid the user will be unamazed by the C-Breeze shell. Once control is passed to the external program—whether it be compiler, linker, or freshly-compiled program—C-Breeze exits stage right, turning stage over to whatever forces must've controlled my audio and my video whenever *The Outer Limits* came on.

The most familiar sight my Lattice compiler shows me is the words "Execution terminated"; but once C-Breeze takes over the screen again, its active window's information line reads "Execute successful," and proceeds to repeat the command line used—even if Lattice had just declared it invalid. Perhaps the "execute" was successful inasmuch as the compiler actually ran for two seconds; but beyond that, where does C-Breeze find the tenacity to prejudge the outcome of the program? I compiled and linked a small program, which proceeded to double-bomb (another familiar sight). Luckily, C-Breeze did take over the system; but once it did, it gleefully proclaimed, "Execute successful." The feeling is somewhat like helping a climber up a cliff with you, only to have him fall from it, and once you get to the top, letting someone shake your hand and congratulate you.

This thought continually enters my mind: There are several ST programs on the market now which can redirect textual output from a .TOS (non-GEM) program from the screen to a different device—generally the modem. Why couldn't C-Breeze have fooled the system into believing a certain open window was, in fact, an output device unto itself? This way, the output status of the compiler and linker could be read through the C-Breeze program; and perhaps a feature could've been added which let the user configure the program so that a procedural phrase could be executed if the window/output device received a certain string of text output—say, "Execution terminated." Perhaps the procedure could automatically change a parameter or two being sent to the compiler, and try the compilation again, without the user having to go through the hassle of changing the "execute" command's output phrase to the compiler, then saving it, reloading it, and retrying it hoping for the best—after having been insulted by the compiler once already.

For those of you who weren't pleased

with Tempus, or who have an older compiler like mine in need of a few hours of transportation into the modern age, C-Breeze is worth the expenditure. On the other hand, many professional programmers may find it does not do

enough for them; and that they themselves could program an editor/shell that's more satisfying for their particular requirements. All in all, C-Breeze doesn't really carry with it a foul wind; for some people's tastes, however, there

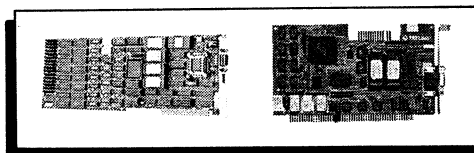
may not be enough salt in the air to capture the fancy of a true C-farer.

C-Breeze by Paul A. Beskeen
Distributed by MichTron, Inc., 576
S. Telegraph, Pontiac, MI 48053.
\$49.95 U.S. suggested retail. •

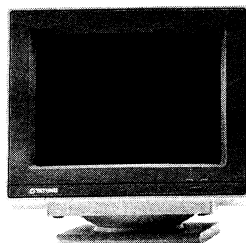
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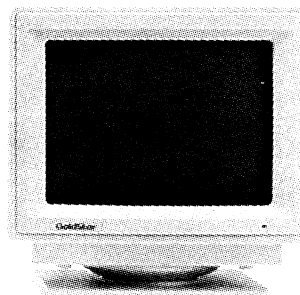


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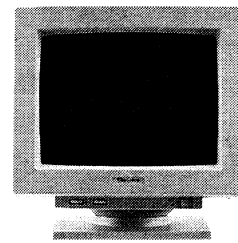
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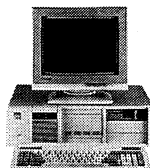
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ATARI

APPLYING THE ATARI

by Jeff Brenner

This month we'll take a look at some new products for the 8-bit Atari, answer some reader mail, and enter a mathematics program for multiplying matrices. See Listing 1 page 274.

New Products

From No Frills Software comes the PS Users Utility Disk, a set of utility programs for The Print Shop owners. Ed Kielbasinski, the designer, writes:

Dear Jeff:

No Frills Software has completed work on its second Atari 8-bit program, the PS User Utility Disk. The Converter,

which we released last fall, has been well received by Atari users, and we feel this program is a much better one, both in design and features. While some of the features of the program are for utility use in dealing with Print Shop, two features are basically programs unto themselves. These are the label maker and the bookmark/coupon maker. Each of these sections could actually stand on its own, to a certain degree, as a separate program.

We are now finishing testing on our third program, The Converter Companion, which together with the Converter can bridge Print Shop, Newsroom, Awardware, PrintPower, Micro-

Painter (and therefore Video Title Shop) and MicroIllustrator, plus more.

Ed Kielbasinski
Kearney, NE

According to No Frills Software, the new PS Users Utility Disk (or PSUUD) contains the following functions that enhance the usefulness of The Print Shop:

- 1) Icon viewer: which can load four icons at a time in disk or alphabetical order, or by searches.
- 2) Icon cataloger: to print icons to your Epson/Prowriter or compatible printer.
- 3) Font cataloger.

- 4) Border cataloger.
- 5) Delete Print Shop files.
- 6) Rename files.
- 7) Undelete files that have not yet been overwritten.
- 8) Label maker: a four size label printer that can use a Print Shop icon on labels with standard Atari fonts and can save them to disk. The label maker has an auto-numbering feature plus the ability to read addresses from database list.
- 9) Bookmark-coupon maker: can use a Print Shop border, font or graphics, or an Atari font, for 16 different sizes of rectangles (for bookmarks and

► CP/M COLUMN

from page 268

reviews on C-128 (and MSDOS) topics. I have had more than 75 articles published in the last few years in a number of computer magazines in Canada, the U.S., and Europe.

Miklos Garamszeghy
Herne Data Systems Ltd.

Second—Tony.

Subj: CS CP/M column help.

Dear Cherp!:

Always enjoy your CP/M column. I was wondering if Ed Harlor's BDOS 17 error might be happening during a PIP. In CP/M-Plus the BDOS function 17 is used to rename a file. The way PIP works is to copy a file with a dummy name, then checks the disk to see if the program existed (if so, it renames the old version .BAK), then renames the file on the disk to the same name as the original or whatever was specified in the command. If there was any error such as the file already existed on the destination disk but was Read Only, or not enough room on the disk, or some illegal character in the filename, then the attempt to rename the file will fail and may cause that 17 error. However, there is a strong possibility that the file was copied successfully and can be recovered with DU or renaming it.

Another possibility is that \$11 indicates a file not found. He may be able to recover that file with NSWEEP. Or he could have accidentally tried PIP-ing it in the wrong direction. If it really is a file not found, he might avoid that problem by using SETDEF to give himself a failsafe. I suggest:

SETDEF *, b:, a:, e:

so that if the command isn't on one of the logged disks, CCP will prompt him to insert a disk.

If his problem happens mainly when trying to run or install a commercial program like WordStar or dBase, the problem might be that the program is trying to access drive B: and if he is using the REU and his second drive, he may have it set to drive M:. The best

solution would be to change the REU to drive B:. Ken Flippo shows how to do that in *FOGHORN*, Vol. VIII No. 2, Nov. 1988 on page 30. Please notice that the text explaining it is quite correct, but the example was printed incorrectly. It should read:

CONF POKE FBD3=96FB
rather than fdb3.

I was a little surprised that you didn't have any answer for Warren Knopse's problem of reading C64 files into CP/M. You have suggested C64-TO-CPM before, but there are more programs available now. One of the best is Rob Tillotson's RDCBM21, which is PD and can be downloaded from many sources. The only problem with that file is that it needed a good UNCRUNCH (>= 24) and it runs in CP/M mode. Once he has that he can read files directly from a 64 disk and it will even translate PETSCII<>ASCII. Now to solve the chicken-or-egg problem of getting it into CP/M, there are lots of possibilities. If he's using a 128, BobsTerm Pro 128 will download directly to a CP/M disk. Or he could use CPMTERM which is public domain, but not as full-featured. Or he could download it to a regular CBM disk and then convert it to CP/M with one of several programs. There is XLINK which runs in 128 mode with a 1571 and can read in a file from a CBM disk and write it onto a CP/M GCR DS disk. If he doesn't like CROSSLINK, he could try mine, TRANSFER CPM which runs in 128 mode. It reads a file from a regular CBM disk with almost any type of drive, puts it into RAM, then BOOTS CP/M so you can use the SAVE command onto whatever type of disk or drive you want. My latest version uses BURST mode and if anyone has any complaints, suggestions or modifications they want me to make to it, they can leave a message to 72127, 2301 on CompuServe. But, however they get RDCBM, they will be happy using that all the time.

Tony

As you can see, the online folks are

every bit as helpful as those who send letters via U.S. mail. One of the nice aspects about telecommunications is its immediacy. Though I am not as conscientious as I should be sometimes, I generally check my online mail at least once a week. For those who wish to contact me on CIS, please use the account number 72366,2645 since that is the one I answer. My other accounts are dummies that I use for testing software and playing games. (Please don't ask how much money I spend on CompuServe—you wouldn't believe me.)

I can also be contacted on DELPHI at username Cherp for those who are on that system.

Perfect Writer Info

Dear Ms. Peterson:

I read with great interest the letter in the January issue of the *Computer Shopper* about the Perfect Writer software help available from John Brewer for the Kaypro series of computers. No address through which Mr. Brewer might be contacted was included in the article so I am asking that you forward the enclosed letter to him in the postage paid envelope.

Thank you for your assistance.

Kenneth Warnock

Well, Kenneth, as you requested I forwarded the letter you sent. I received about a half dozen letters requesting that I either forward a letter to Mr. Brewer or provide his address. The letters have been forwarded and those who sent postcards requesting his address should have received replies by now. I know this seems a silly way to handle it, but I do not give out addresses of those who write me unless I am specifically instructed to.

This month, I also received a letter from John giving me permission to use his address and phone number here in the column. So for those who are interested in John Brewer's helpful hints for using Perfect Writer, he can be reached at:

John Brewer, 2 Brad Lane, White Plains, NY 10605; (914) 287-0277.

And last but not least; the *Computer Shopper* user match of the month.

Dear Ms. Peterson:

I am writing to you in regard to a letter in your column from Robert Radel in the October 1988 edition of your magazine. Mr. Radel mentioned that he has a Sanyo MBC 1250 computer and wanted to get in touch with others who have the same computer.

Paul Cuskaden, an auctioneer in our town, has a Sanyo MBC 1250. I help him with his computer projects so he asked me to write for Mr. Radel's address so that we can contact him. If you can't give out Mr. Radel's address, I understand. Could you then either mention us in your column, with the address, so that he might write to us or forward this letter to him?

We are interested in hearing from another Sanyo MBC 1200/1250 user, especially someone as relatively close as Mr. Radel is to us. (Peru, Indiana is about 2-3 hours from us.)

Thanks for the help you can provide on this, and keep up the good work with your column (I read it as I have a C-128).

Kent D. Sullivan

P.O. Box 186

St. Paul, MN 47272

OK, Kent, here is the answer. Now the ball is in Mr. Radel's corner. Hopefully, he'll contact you and the two of you can talk.

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► APPLYING THE ATARI

coupons). These can be saved to disk and re-edited later.

10) Transfer feature: allows the automatic transfer of Print Shop icons from one disk to another.

The PS Users Utility Disk sells for \$29.95 and works with an 8-bit Atari with 48K memory or more. One or two disk drives and an Epson or Prowriter compatible printer is required. For more information, contact: No Frills

Software, 800 E. 23rd St., Kearney, NE 68847, (308) 234-6250.

Turboword +

MicroMiser Software brings us Turboword +, an improvement on its Turboword word processor for owners of the XEP80 80-column screen adapter. The program features a What You See Is What You Get (WYSIWYG) display, automatic formatting during text en-

try, macros, mail merge, spelling checker, and more, including all standard editing commands. The program is data-compatible with the MicroMiser's Turbobase 80 program. For XEP80 owners tired of waiting for an 80-column Paperclip or AtariWriter Plus, Turboword may be a good alternative, and users will certainly appreciate the 80-column display. Look for a full review in a forthcoming issue. Turboword + is \$49.00. For additional information, contact: MicroMiser Software, Inc., 1635-A Holden Ave., Orlando, FL 32809, (407) 857-6014.

Antic All 8-Bit

In a victory for 8-bit Atari users upset with the growing ST portion of the Antic magazine, Antic Publishing announced that the publication would now be exclusively devoted to 8-bit computers. A few months earlier, Analog Computing also rededicated itself to the 8-bit Ataris, and it's terrific to see the two major Atari-dedicated publications competing for 8-bit readers.

DOS XE

Several readers have requested information on the availability of DOS XE, the long-awaited Disk Operating System designed for the Atari XF551 double sided disk drive. DOS XE features date stamping, BASIC program auto-run, RS-232 auto-load, 130XE RAM disk auto-load, directory/sub-directory file structure, batch files, view

file, command line entry, and more. The DOS is fully compatible with DOS 2.0 and 2.5, and supports all of the formats offered by the XF551. Any XF551 owner who is using DOS 2.5 will definitely want to get hold of DOS XE to fully utilize all of the features of this disk drive. If you cannot obtain a copy from your local users' group, you can get the disk and manual for \$13.50 from Atari. Write to: Atari Corp., 1196 Borregas Ave., Sunnyvale, CA 94086. Attn: Customer Relations.

Reader Mail

Dear Jeff:

Many thanks to you and your readers for the solution to my problem of typing sub/superscripts with the AtariWriter Plus and a Panasonic printer. The explanation and sample drives cleared up my problem and gave me an insight to the operation that I may never have had if I had been able to purchase a drive program with my printer. Thanks again and continued success with your column.

Dominick J. Defazio
Rochester, MI

I'm happy to pass along your thank you to the many readers who wrote in to solve your problem. This spirit of cooperation and willingness to help us is what makes the community of 8-bit Atari users a superb lot among computer users.

Now here are two more requests from

MATRIX A:					
3.5	6.5	2.25	1.85	3.6	5.3
9.2	7.26	3.5	1.44	0	1.8
3.1	1.9	4.33	6.2	1.25	3.4
5.42	5.68	4.25	1.9	9.88	7.65
1.5	6.5	8.15	9.35	3.2	1.4
MATRIX B:					
7	4	5			
2	9	1			
5	6	2			
0	9	3			
5	1	2			
4	1	7			
MATRIX C (A*B):					
87.95	111.55	78.35			
103.62	137.9	77.18			
67	115.93	70.96			
150.55	132.93	120.29			
85.85	202.15	74.55			

Figure 1

```

DLJ 10 REM MATRIX MULTIPLIER
EWJ 20 REM BY JEFF BRENNER
NJJ 30 OPEN #2,4,0,"K:"
MVJ 40 DIM A$(100):A$="MATRIX MULTIPLIER"
BSJ 50 GOSUB 730:GOSUB 760
KYJ 60 POSITION 12,0:PRINT A$
QPJ 70 POKE 82,3:POKE 84,2:PRINT
DDJ 80 PRINT "This program will multiply any two"
QNJ 90 PRINT "matrices A and B and will show the"
WRJ 100 PRINT "result C on the screen or printer."
UIJ 110 POKE 82,2:PRINT
QHJ 120 A$="ENTER DIMENSIONS OF MATRIX A"
DMJ 130 GOSUB 730:POSITION 6,9:PRINT A$:POKE 764,255
HSJ 140 PRINT "rows,columns";:INPUT R1,C1
BKJ 150 A$(LEN(A$))=CHR$(194)
NBJ 160 POSITION 6,12:PRINT A$
HXJ 170 PRINT "rows,columns";:INPUT R2,C2
VDJ 180 IF C1=R2 THEN 270
CKJ 190 A$="INVALID MATRIX":GOSUB 730:PRINT A$
HSJ 200 PRINT "The number of columns of A must equal"
BTJ 210 PRINT "the number of rows of B. Enter again."
GSJ 220 A$="RETURN":GOSUB 730:POKE 85,8:POKE 752,1
PTJ 230 PRINT:PRINT:POKE 85,8
PJJ 240 PRINT "PRESS ";A$;" TO CONTINUE":POKE 764,255
NEJ 250 IF PEEK(764)<>12 THEN 250
QQJ 260 POKE 752,0:RUN
MNJ 270 TRAP 700:DIM A(R1,C1):DIM B(R2,C2):DIM C(R1,C2):TRAP 40000
YDJ 280 A$="MATRIX ENTRY":GOSUB 730:GOSUB 760
NBJ 290 POSITION 14,0:PRINT A$
FDJ 300 PRINT:PRINT "Input matrix entries one element at a"
KZJ 310 PRINT "time as requested":PRINT
UXJ 320 FOR I=1 TO R1:FOR J=1 TO C1
OOJ 330 POKE 84,8:PRINT CHR$(156);CHR$(156);
VUJ 340 PRINT "ENTER ELEMENT A(";I;";";J;"): ";
FZJ 350 INPUT #16;X:A(I,J)=X
RKJ 360 NEXT J:NEXT I
VEJ 370 FOR I=1 TO R2:FOR J=1 TO C2
OTJ 380 POKE 84,8:PRINT CHR$(156);CHR$(156);
WVJ 390 PRINT "ENTER ELEMENT B(";I;";";J;"): ";
FWJ 400 INPUT #16;X:B(I,J)=X

```

```

RGJ 410 NEXT J:NEXT I
WVJ 420 A$="MULTIPLYING":GOSUB 730:GOSUB 760
FLJ 430 POSITION 15,0:PRINT A$:PRINT
LQJ 440 PRINT "Please stand by..."
XGJ 450 FOR I=1 TO R1:FOR J=1 TO C2:C(I,J)=0:FOR K=1 TO C1
PJ 460 C(I,J)=C(I,J)+A(I,K)*B(K,J)
LQJ 470 NEXT K:NEXT J:NEXT I
OKJ 480 A$="SOLUTION":GOSUB 730:GOSUB 760
YLJ 490 POSITION 16,0:PRINT A$:PRINT:PRINT
FEJ 500 PRINT "MATRIX C:":PRINT:LIM=INT(39/C2)
UZJ 510 FOR I=1 TO R1:FOR J=1 TO C2
GRJ 520 POKE 85,LIM*(J-1):A$=STR$(C(I,J))
VRJ 530 IF LEN(A$)>LIM-1 THEN PRINT A$(1,LIM-1);:GOTO 550
FEJ 540 PRINT A$;
XXJ 550 NEXT J
LJJ 560 PRINT:PRINT:NEXT I
AVJ 570 PRINT:PRINT "Would you like a printout (Y/N)?":GET #2,N
KYJ 580 IF CHR$(N)<>"Y" THEN 220
MEJ 590 CLOSE #3:OPEN #3,8,0,"P:"
GCJ 600 PRINT #3;"MATRIX A:"
JYJ 610 FOR I=1 TO R1:FOR J=1 TO C1:PRINT #3;A(I,J),
OKJ 620 NEXT J:PRINT #3:NEXT I
DHJ 630 PRINT #3:PRINT #3;"MATRIX B:"
KEJ 640 FOR I=1 TO R2:FOR J=1 TO C2:PRINT #3;B(I,J),
QNJ 650 NEXT J:PRINT #3:NEXT I
DLJ 660 PRINT #3:PRINT #3;"MATRIX C (A*B):"
KHJ 670 FOR I=1 TO R1:FOR J=1 TO C2:PRINT #3;C(I,J),
QQJ 680 NEXT J:PRINT #3:NEXT I
BSJ 690 GOTO 220
IYJ 700 PRINT "Not enough memory for matrix of that"
IOJ 710 PRINT "size. Enter smaller matrices."
BMJ 720 GOTO 220
YAJ 730 FOR I=1 TO LEN(A$)
UOJ 740 A$(I,I)=CHR$(ASC(A$(I,I))+128)
TQJ 750 NEXT I:RETURN
WXJ 760 CLOSE #1:OPEN #1,4,0,"E:":SETCOLOR 2,4,2
NNJ 770 POSITION 0,0
UVJ 780 FOR I=1 TO 40:PRINT CHR$(160);:NEXT I
BWZ 790 RETURN

```


CLASSIC COMPUTERS CLASSIC COMPUTERS CLASSIC COMPUTERS CLASSIC

NOTE & POINT, ATARI 8-BIT NEWS AND COMMENT

by John Nagy

There frankly isn't a lot of "news" for 8-bit Atari owners this month. The "hot" topics are all basically unchanged from last month. GOE and TURBO 816 are both unreleased. So, I'll use this break to review the Diamond cart in more detail.

First, a few items. The 28,000 square foot World of Atari show scheduled for April 22-23 in the Disneyland Hotel (Anaheim, California) is shaping up to be "the" event of the Atari year. See Atari ST for more details on the show.

Alan Reeve began plans for an 8-bit Atari "desktop" to match that of the ST and Macintosh over two years ago. He had dropped the plans, but started again about a year ago after *Computer Shopper* readers encouraged him to continue. By fall 1988, he had a disk version of Diamond available for sale, and although it was limited in what it could do, it was the most innovative and promising product for the 8-bit Atari since the MIO box (external RAM-disk/printer interface/modem interface/hard drive interface from ICD Inc.). In mid winter, Alan released his stackable cart version of Diamond, and it is a pleasure to use a mouse with such ease on the 8-bit.

Some reviews have panned Diamond heavily, using observations of only the Disk version with its admittedly limited selection of DOS choices, etc. Others have attacked the Cart version, without mentioning that they were using one of the first 50 carts released, with bugs that were quickly crushed in a re-issue of the cart ROM. Worse, some of the

"bugs" reported by reviewers simply don't exist. One dramatic one is the review that reports that Diamond won't support a MIO, and thus a hard drive. Patently false, even in the cart version. I use Diamond with my two MIOs regularly.

I have included several "screen shots" of Diamond. These have been provided by USA Media, the marketing company for Diamond, and are not 100% accurate. They were apparently developed on a Mac for illustrative purposes, as there is as yet no "snapshot" function for Diamond. The pictures are fairly accurate, however, and in fact, Diamond looks better than these simulated screens indicate, with smaller icons and clearer text. The icons are animated (the disk drive spits a disk out when activated, the trash can lid opens, the pointer turns into a disk while accessing the drives, etc.) and fully relocatable on the desktop. Files can be displayed as icons or as text, with adjustable sorts of the display. File windows can be re-sized, or adjusted with slider bars that allow you to see "obscured" parts of the listings. Yes, it's remarkably like the ST in appearance, function, and handling. It is slower than an ST, particularly when drawing a file window with lots of files. 43 files takes 5 to 6 seconds, though redrawing without disk access takes only 2.

Being cart-loaded, Diamond boots quickly to its desktop after the loading of whatever DOS kernel you use. Yes, SpartaDos, DOS XE, DOS 2.x, etc., are supported. Although there are some reports of trouble with MYDOS. I am led to believe that it is virtually resolved

already. On your bootup disk, you should have a configuration file that sets up Diamond to read selected DOSs. Sadly, Diamond can only deal with one configuration at a time. This means that once you start a session with Diamond, you cannot mix DOS format disks without a reboot, even if the DOS you are using would ordinarily be able to access those other DOS file structures. While this is not a crippler in any way, it does make the user have to plan more thoroughly to avoid mixing disks unnecessarily. As with many other things that "would be nice," a desk accessory may well be designed to be able to read DOS 2 files from SpartaDos and/or copy them to Sparta format. Again contrary to some reviews, time stamping in SpartaDos and DOS XE are supported.

A port for a second cart is provided on top of the Diamond cart, which is identical to the SpartaDos X cart, and is compatible with it. This cart itself is an expensive item, and is the reason for the "high cost" (\$79.95) of both products.

Command line files (*.COM) will prompt for parameters when executing, via the standard ST "double click." "Most" binary files will load via Diamond without problems, but a few (mostly those written for SpartaDos exclusively) lack a run vector in the file (SpartaDos doesn't require it, DOS 2 does). No problem, Diamond offers a utility on their included disk that will tack one onto any problem file, fixing it forever without affecting its operation on "bare" SpartaDos.

Also included in the accessory/utility package are drivers for alternatives to

the ST mouse Diamond really cries out for. You can use a pad, trackball, joystick, or mouse. There are memory drivers that set up RAMdisk and accessory area to utilize your memory to the best advantage. Desk accessories can be chosen for any particular use, and remain resident as "pop-in" programs at any time.

Diamond Paint also comes with Diamond. It supports Koala and Micro Illustrator file formats, and has several features (like a clipboard) that have not been seen before on the 8-bit Atari.

While we await major applications like a word processor (which is promised to be available before you will read this and will offer multiple typefaces and point sizes) and a terminal program, there is enough included in the Diamond package to make it quite useful. Home programmers will find the technical manual to be less than instructional, but more than informative. Alan promises a new manual or perhaps a separate programming guide shortly, and it is needed. As it is now, programming from the manual is a lot like learning a language from a dictionary.

So should you buy Diamond? That depends. If you expect to keep your 8-bit Atari system, and you plan to do more than play games with it, I expect Diamond to be an asset you will soon become addicted to. I also expect to see lots of public domain programs become available that will use the Diamond mouse and window interface, making all typical computer use operate under the graphics environment. That means a lot more productivity for less effort.

continued to page 279

► APPLYING THE ATARI

readers. If you can help these readers in any way, please write in and share your knowledge.

Dear Jeff:

Do you or your readers know where I can find SWP, the company that produced the ATR 8000? There are two ATR related products that I need. The first is an adapter to run an 8-inch drive on the ATR, and the second is a program called DiskDef II that allowed two drives to be set to different formats.

Tony Venticinque
Bolingbrook, IL

Dear Jeff:

Do any of your readers have any information on Advanced Interface Devices, Inc., a company that was based in Melbourne, Florida which (in 1984) sold the R-Verter serial bus modem cable adapter and drive handlers?

Michael Nixon
United Computer Sys.
Los Angeles, CA

Readers?

Dear Jeff:

I've been a subscriber to *Computer*

Shopper for four years now and I have always especially enjoyed your columns. My first computer was an Atari 800 and I have subsequently added the 130XE, 520ST, SX-64, Amiga 500 and an IBM-XT clone through the years. I've gotten the most pleasure out of my 800, though.

In response to your recent request for those selling 8-bit software: I had the opportunity a couple of years ago to purchase the Atari 800 software stock of Pacific Stereo when they went out of business at \$5/program. I had hoped I would be able to sell these at swap meets but that hasn't been very successful. I would like to offer them at cost to any of your readers who might be interested. They can send a SASE for the product list to: Charles T. French, 27202 Corcubion, Mission Viejo, CA 92692.

Charles T. French
Mission Viejo, CA

Dear Jeff:

I'm learning about matrices in school and would like to know how to go about writing a program that will multiply two matrices of any size. We're using

IBM computers at school to perform the operations on large matrices, but I would like to be able to do the operations at home on my 130XE. I have not been successful in transferring the program over to my 130XE. I would be grateful if you could provide a short program or if you could direct me on writing such a program in Atari BASIC.

Sandra Dreyfus
Northbrook, IL

One important aspect of Atari BASIC is that all subscripted variables must be dimensioned in advance. This may have presented a problem to you when converting from another BASIC. Listed under "Matrix Multiplier" you'll find a program that will multiply two matrices that you enter. The only limitations to the size of the matrices is the amount of memory available in BASIC (subscripted variables consume memory rapidly) and the requirement that the number of columns of matrix A must equal the number of rows of matrix B. This program should prove useful to students of linear algebra, teachers, and anyone else interested in the power of the computer to perform

tedious operations with relative ease and speed.

The program's operation is straightforward, with on-screen prompts to guide you through entering the sizes of the matrices, and the individual elements. When both matrices have been entered, the computer will pause for a few moments and will then display the product of the two matrices. Due to limitations of the screen width, the values display may be truncated if the product contains a large number of columns, or when the individual elements contain many digits. The solution matrix, along with matrix A and matrix B, can be displayed in its entirety on the printer by pressing "Y" in response to the "Would you like a printout (Y/N)?" prompt. A sample output is given under Figure 1 page 274.

Next Month

More Atari news and information, reader mail and new products.

Reader's questions, comments and contributions are welcome. Address all correspondence to: Jeff Brenner, "Applying The Atari, 5/89," c/o *Computer Shopper*, P.O. Box F, Titusville, FL 32781.

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► SUPERSET ROM UPGRADE FOR H/Z H-19/H-89

Superset, and the interlace mode looked really great on text and static graphics! Overall, I feel that the Superset is a very worthwhile upgrade, especially for people who spend a lot of time staring at their screen. A particularly nice feature is that user-designed custom ROMs are available for the Superset, at rates starting at about ten bucks. If you need a custom character set, such as Russian Cyrillic Alphabet for translators, spies, or radio hams, or perhaps a Tengwar character set for Tolkien scholars, alien languages for science fiction authors and game programmers, etc., all that is needed is for the user to provide a downloadable version of the font on disk. (Contact Lee Hart for details on this, as there are some restrictions on copying copyrighted third-party fonts.)

Compatibility with Heath/Zenith software is very good. Although some programs may require patching to take

advantage of all the new Superset features, since all the default modes on the kit are identical with the original H-19, most regular software runs fine. Running some data-intensive programs such as graphics screen dumps may re-

quire that you turn on speed limiting or handshaking, but this can be done anytime by taking the terminal offline and hitting a couple of escape keys, by setting DIPswitches, or by a software batch or XSUBmit file.

More news later here as developments warrant.
Lee Hart, 28612 Middle Crossing Rd., Dowagiac, MI 49007, 616-782-3980.
Quickdata, Inc., P.O. Box 1242, Sheboygan, WI 53082, 414-452-4172. ●

► NOTE & POINT

from page 276

If you have ever watched a ST or Mac user fly around the system with the mouse, clicking and dragging, you have the notion of the ease of this design. Typing commands, or entering menu options for DOS functions simply are unnecessary, and you will never want to do them again. But what I feel is most important is the learning of the graphics interface. Most 8-bit owners, even those who are advanced in experience, balk when handed a mouse or when forced to interact with a Mac, ST, or Amiga. Now, even IBM and VAX system mainframe computers are adding graphic interfaces, so it is only a matter of time before being adept at them is obligatory. Diamond brings this environment to the 8-bit computer with a lot of class and competence.

So, if you don't want to ditch your 8-bit Atari, consider Diamond. What about the "other" graphic system, you may ask—well, as of this writing, there still is no other system available, despite ads and promotions. Diamond has been released and refined in the marketplace for seven months now, and I believe it has become the default standard in that time. GOE, the unreleased competition, may also be a very competent product when it reaches market. But Diamond is (or is becoming) everything it should be, and will not disappoint those who can afford it. Remember, you need an ST mouse to use Diamond to the greatest advantage, and they run well over \$50 each.

Diamond, \$79.95 including Diamond Paint and the Diamond Programmers Kit, from Reeve Software, 20 W150 Old Farm Lane, Warrenville, Illinois, 60555, 312-393-2317 or 301-863-8369. Available in retail outlets and Federated stores as well, often discounted. Diamond on Disk, using only DOS 2.x, also available for \$29.95. ●

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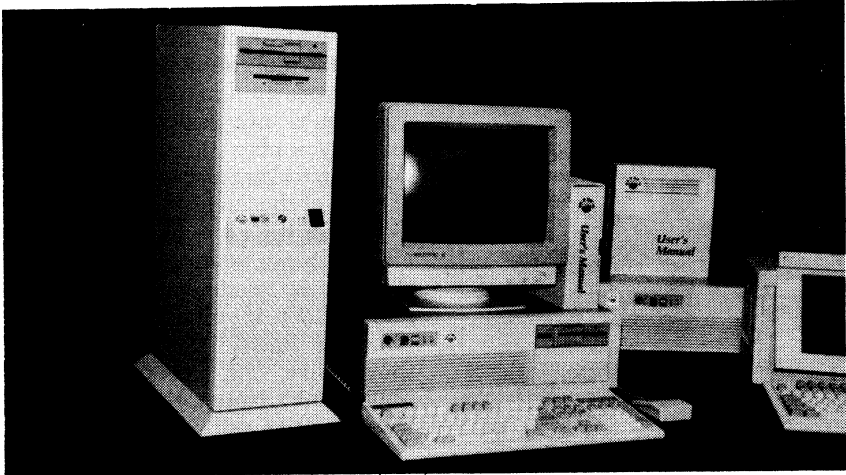
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Features	Cache Pro 386/25	Page Mode 386/20	SX 386/20	286 Plus 8/16	286 Plus 8/12
CPU	80386/25 or 20MHz	80386/20 or 16MHz	80386/16	80286/16	80286/12
Coprocessor	387/Weitek	387/Weitek	80387SX	80287	80287
Cache	64K/256K	None	None	None	None
RAM/Board	1 to 8MB	1 to 4MB	1 to 4MB	1 to 4MB	1 to 4MB
Expandable	16MB	16MB	16MB	8MB	8MB
Floppy Drive	1.2 or 1.44	1.2 or 1.44	1.2 or 1.44	1.2 or 1.44	1.2 or 1.44
Dual FD/HD Controller	1:1 MFM	1:1 MFM	1:1 MFM	2:1 MFM	2:1 MFM
I/O Ports	2s, 1p	2s, 1p	2s, 1p	2s, 1p	2s, 1p
Special Slot	1 = 32 bit	2 = 32 bit	1 = fast slot	1 = fast slot	1 = fast slot
Keyboard	101 Enhanced	101 Enhanced	101 Enhanced	101 Enhanced	1 Enhanced
BIOS	AMI	AMI	AMI	AMI	AMI
Landmark	42/33	25/21	20	20.5	16
Norton SI	32/24.4	23/18.7	18.7	18.7	15.3

The above systems are available in 5 Models: Model 50M, 70M, 110R, 1500ES, 300ES
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A CRASH COURSE IN CALAMUS

by D.F. Scott

Picture in your mind, if you will, *Time* Magazine. Ignore the familiar red-bordered cover, and see yourself turning the pages, past the table of contents and "Letters From the Publisher," past the ads and the "American Scene" section, and see the first page of hard news. Chances are, it's the "Nation" section, on or about page 26. The headline is in very bold type—to put it precisely, Franklin Gothic Bold—and just above it are the words "Cover Story" in Times Roman caps, usually 10-point type. The sub-heading is Times Roman Italic, underlined. The first letter of text is Franklin Bold; but until

the end the body of the article is set in a clearly legible Times Roman, with hairlines governing the space between and around the three columns per page (two columns if the story is historic or tragic).

If the textual contents are to a magazine what orchestration is to a concerto, then typography constitutes the theme of that concerto. *Time* doesn't make much sound when read; but if it did, the emanation would resemble the music of a string quartet, thinly and delicately ticking away the headlines like the "Fall" movement from Vivaldi's "Four Seasons." No magazine which has had a major impact on American society has been without a generally

consistent typographical layout, in the same way no concerto can be memorable without a constant, even repetitive, theme.

I can't, for the life of me, recall the specific layout of *Mademoiselle*, or *TV Guide* since it was acquired by Rupert Murdoch. I've glanced inside both magazines recently, because I was attracted by changes in their cover styles—but I can't remember what it was I saw. Neither publication had maintained a consistent typographical style throughout 1988 (except perhaps for the TV show listings of the latter publication). I do remember, however, the last *Time* article I glanced at—a biography of Barbara Bush—even though the few pages containing her story must've looked for the most part like every other article that had appeared in that magazine over the last twelve years.

It's even more difficult for me to remember the specific layout styles of those publications produced with microcomputer desktop publishing applications, perhaps because, for the most part, the limitations of those programs leave no leeway for the designer to create a typographic style of distinction. Most publishing programs generally offer two amalgamated typefaces called "Swiss" and "Dutch;" and if the designer tries to do anything fancy with the line-drawing functions—like drawing hairlines between the columns—those graphic embellishments will probably be lost on their way to the laser printer. Despite the advances made in personal publishing as a result of the advent of PostScript by John Warnock and Adobe Systems, there still exists a deep rift yet to be bridged between typography and xerography.

Calamus—the first major ST software product from Ditek International—is also the first effort by someone from our realm of computing to link the virtual island upon which desktop publishing has resided, with the mainland continent of typography—the real world of publishing. Calamus is not a spinoff of either Aldus' PageMaker or Xerox's Ventura Publisher. Its chosen methodology bears no resemblance to that of a typesetting machine. The project was evidently self-inspired, borrowing as little pre-existing methods from other programs as possible. The result of the project is very memory-intensive, and is really meant for use with at least a Mega 2 and a laser printer. It is not for the beginning computer user; in fact, its screen appearance is about as likely to scare away prospective ST buyers as its printing output is to attract them.

Whereas previous attempts to truncate the roots of the Macintosh in desktop publishing have proven timid and underproductive, Calamus plows right through Apple's hallowed ground with a well-honed blade. The direction of that plow is at first very difficult to control—behaving at times more like a bulldozer than a plow—but when

carefully driven and used with caution and care, what is harvested from the laser printer constitutes the best output yet produced by an ST.

The page manipulation window of the program consumes about 80% of the ST's monochrome screen—which is ironically about the size and resolution of the Mac's mono monitor. Most Calamus functions are represented by symbols, and are selected on menus by pointing to those symbols and addressing them with the left mouse button; but in some cases the programmers' choice of classification and symbology appears somewhat arbitrary. Below the GEM menu bar—which is largely ignored by this program—is a row of five icons representing the categories under which each function is classified. These are referred to as "modules," and their associated symbols as "sub-modules"—though the functions within these sub-menus aren't referred to as "sub-sub-modules." In other words, most function selections are three-step processes. Therefore, invoking an extended hairline cursor and creating a text frame have the same "modular" hierarchical importance.

In the standard method adopted by microcomputer typesetting programs, the foundation of each layout consists of a background page called a "stylesheet"—a name borrowed from the still-healthy industry which depends upon the modern Linotype machine. Though such an implement today rarely uses steel moveable letters, a Linotype (which is currently a brand name, like Xerox) produces a strip of text—generally in one font or typeface—printed on a slick, camera-ready sheet of heavy-bond paper, which is then cropped by ancient instruments referred to by the elders as "scissors." The cropped product is then pasted onto the stylesheet, which contains all the guidelines necessary for flush text positioning, in a blue-green color of ink that is invisible to the reproduction camera. If you recognize the "look-and-feel" of this procedure in the less strenuous exercise of operating a desktop publishing program, it is because the model for this exercise was born in the typesetter's studio.

In Calamus, a text strip or graphic image is considered a "frame;" and its size and position are first established on the stylesheet before its contents are inserted. Other programs allow the choice of content categories to be purely arbitrary—a raster-graphics frame could easily be emptied and filled with text—but Calamus asks that the page designer have a purpose in mind for her frames before she creates them. For the sake of beauty and typographic integrity, I applaud this choice of input methodology, as I do the need for one to create her own stylesheet before she commences gluing things all over it. The program requires the user to think about her page, to place concept before composition. So in theory, if the user has a reasonable page in mind, she is bound

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to find in Calamus every conceivable tool necessary to translate her mental image into a graphic image.

I say "in theory" for this reason: What the standard ST user has been accustomed to seeing are programs geared toward use by novices; and which meet their users halfway, doing part of the work for them and thus reducing much of the need for pre-planning. In all honesty, it is much easier to write a program for novice computer users than for experts, since experts demand numerous options and possibilities, whereas novices are assumed to be incapable of recognizing an option if they saw one. A novice's program assumes the user wants a standard appearance, a merely adequate result, or a regular-looking report—nothing special, nothing customized.

Calamus assumes nothing; instead it practically hands the user all the logical tools a typographer could imagine, throws in a few he hasn't thought of yet, and turns him loose in its graphically-represented drawing room. There are no default settings—nothing already done halfway. So if you're not sure how to use the tools Calamus would offer you, a million fonts and twelve dozen styles of border frames will not help you to produce a single good-looking page.

On the other hand, if you have difficulty recognizing the tools Calamus offers, you're not alone. A professional typographer may find using the program less of a skill, and more a trial of patience. For instance, the icon representing the attachment of contents to a block looks very much like a tube of toothpaste being squeezed out on a brick. While I can accept the fact that, in West Germany, glue is sold in such tubes, I cannot force myself to make the mental connection between my mouse pointer and glue or paste—no matter how much Ditek, Atari, or Apple would like me to.

A good program with multiple features is arranged categorically and heirarchically; and obviously such a structure exists within Calamus. Yet there is a considerable degree of inherent ambiguity in the definition and relationship between functions and categories in this program. For instance, line and border creation are given two distinct main categories of their own; whereas text frame creation—certainly a more important procedure—is a function found within a sub-category, located by selecting the arrow with your arrow (literally), and then pointing to the stylesheet function symbol, of all possible places.

The five main category modules are called layout assembly, frames, text, lines, and raster area, in that order. The screen snapshots reproduced here show the icons for those functions in the upper left corner of the screen's working area. As the mouse pointer passes over one of these icons—or any other icon in the program, for that matter—the function it represents is described in lower-

case text in the upper right corner of the screen, in the generally-unused portion of the menu bar. Almost none of the meanings for all the icons in this program are attainable upon first recognition—the trash can being a

notable exception. One may reasonably wonder how the arrow-pointer icon necessarily refers to frame and stylesheet creation, when the two icons which appear to represent frames actually refer to lines and shaded areas, and when

the arrow function does not depend upon or affect the arrow pointer—which can be replaced by the finger pointer.

Figure 1 maps out in graphic detail just how confusing the stylesheet crea-

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tion process can be, even at first. Below the five main module icons are the four "sub-module" icons—in the shape of little Rolodex tabs—which belong to the frame category. Those icons which are drawn in light pixels on dark blocks represent currently-selected features; I'm not sure how clear the reproduction is here, but no less than ten functions are currently active in Figure 1.

The functions for drawing stylesheet guidelines manually, displaying the five different types of frames, displaying the three types of guidelines, pulling up the dialog boxes for numeric input of guideline positions, displaying the ruler, changing the form of the cursor, and deleting a guideline have all been crammed into this one menu—which doesn't constitute even one twenty-

fourth of the total combined menu area. With all the possible guidelines selected for display, the page in the "New Document" window—which is, in actuality, empty—soon becomes flooded with dotted and solid lines on the screen. A true paper stylesheet on a typographer's drawing board is also full of such guidelines, but it is eight times larger than its ST screen counterpart. Repre-

sending all four forms of guides with different styles of dotted lines can make a visual cacaphony out of an otherwise pacific page.

The entire program is not this monstrous. Once the page is magnified to an extent beyond that shown in Figure 1, the typographer can draw her frames directly to the screen by poking the left mouse button twice—once

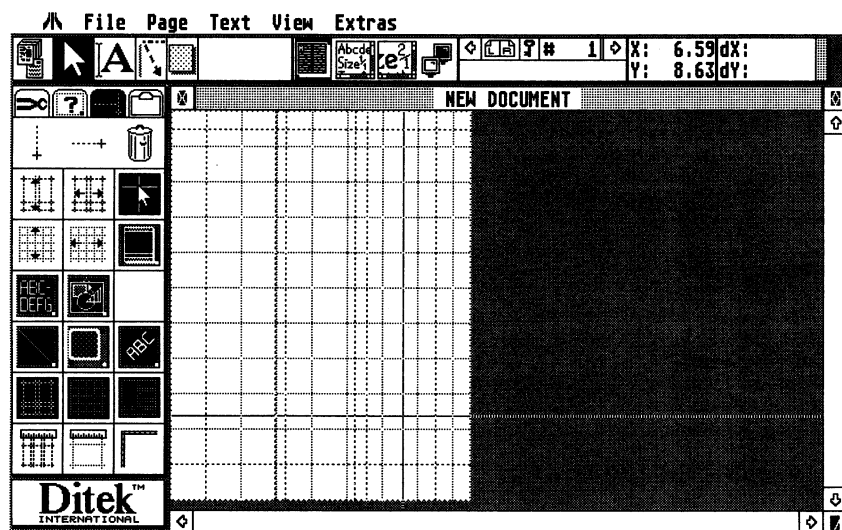


Figure 1

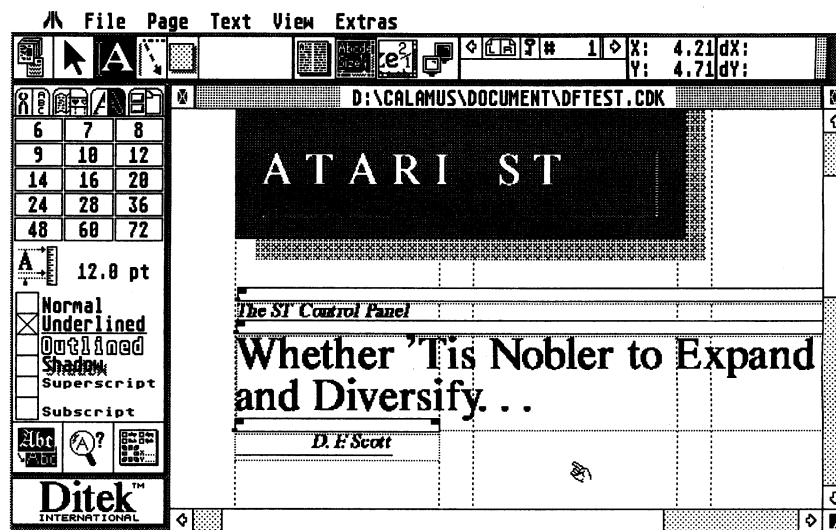


Figure 2

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in the upper left corner of the frame-to-be, and once in the lower right. The cursor position at upper corner positioning is registered numerically in hundredths of an inch, to the right above the page window; the amount of cursor deviation during lower right corner positioning is registered in the deviation or "delta" block. When used in conjunction with the optional border rulers, the pointer's position relative to the rest of the page is certain never to be lost.

Just because the horizontal delta registers zero, however, does not necessarily mean the line produced will be straight; without exception a line drawn from left to right across the page when sized to fit the screen page window, was not flush with the upper and lower edges when produced on the laser printer; under the magnifier, it was evident the scan line did jump down twice, for a deviation of a fraction of a degree—but there was a deviation nonetheless.

As stated before, the content category of a frame is determined before its domain is established; as a return favor, Calamus marks the magnified frame with an icon in the upper left corner designating the frame type, uniform to the type-selection icons from the frame

menus. A line frame is self-explanatory; and since the symbol for a line here is a line, Calamus doesn't bother with marking it. A border frame is referred to by this program as a "frame," so the frame of domain is actually classified—in the manual as well as the upper right menu descriptor—as a "frames frame." This is the same program which was thoughtful enough not to torture us with "line lines," yet we are forced to play with "frames frames."

Figure 2 depicts a screen snapshot of my effort, while in progress, to produce a mock headline and byline for myself—part of a latent urge from deep in my subconscious to see my name in lights. The shaded block for the "Atari ST" department banner was produced rather instantly—the lighter block shadow was produced automatically by Calamus, at a designated distance in points from the "mother" block. Both block and shadow have variable intensities, set at the time of block creation; the main block here is 75% intensity, and the shadow is 33% (I purposefully picked a tough number to calculate). The intensity patterns are produced mathematically, and sent to the screen and laser printer uniformly.

You may be able to detect the finger

pointer in Figure 2, which is used to address the frame to be manipulated by the operating functions. The arrow pointer—or its alternate extended crosshairs pointer—is used in the creation of a frame. The pointers are toggled with the right mouse button (at last, a program which makes good use of that gadget) and the actual function selected takes place in the page window upon pressing the left button.

The left-side menu can be flipped to the right side by pointing to and clicking the left button once over the "Ditek" logo—a fairly large and obtrusive block, considering the extraordinary pains taken to miniaturize and make room for all the other function icons. Note in Figure 2 how each of the four "sub-module" tabs were divided, in desperation, into two parts apiece, each part being only 12 pixels wide by 20 tall—barely large enough for a single letter, let alone an entire pictogram. The active menu in this diagram—represented by the sixth half-tab from the left and looking, though highlighted, like the right half of an outlined sans-serif "A"—is perhaps the easiest menu to interpret, containing buttons for the selection of the most common point sizes, an area for typing in a custom point

size to the tenth of a point, and "radio buttons"—by the old Macintosh definition—for the selection of a type style.

Notice in the type style button row, there are no selections for boldface or italic type. There is a very good reason for this absence: Open a typesetter's guide and study a true boldface and a true italic font under a magnifying glass—especially a common serif font such as Times Roman. When italicized, the weights of the various curves of the letters are shifted, and even the style and appearance of the lower-case letters are changed. The "feet" serifs of "d," "f," and "k" are made into curls; and the Russian "a" drops its upper ascending swash and becomes Greek—merely a bowl on a stem. The various stresses and shoulders shift position in a true italic font, as if the letters were caught in an undertow. These shifts and transformations were intentionally designed by Stanley Morison in 1932, on assignment for the *Times* of London—thus the name "Times New Roman."

So why, if Calamus expects the user to load extra boldface and italic fonts separate from their straightface counterparts, does the program provide merely

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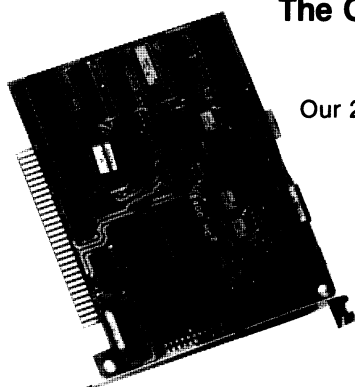
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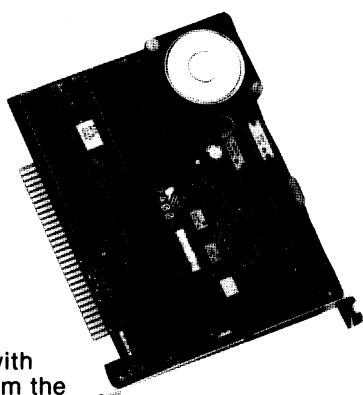
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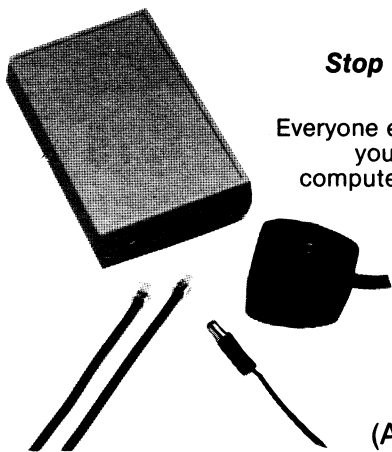
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tilted straightface fonts as italic? Calamus' boldface fonts are indeed real boldface, with the weights shifted and extended proportionately throughout the various parts of each letter. If the designers really wanted to provide tilted fonts as italic, they could've easily settled for mathematically shifting each letter one pixel to the left every few scan lines like every other ST desktop publishing program thus far. Granted, the tilt problem is not a fault of the Calamus program itself, but of its associated data files. Certainly over time, as the Calamus library builds a collection of supporting products, real italic fonts—and, for that matter, real compressed and extended fonts—will be among them, for the body of the program can—and must—support them.

Calamus fonts are not bit-planes but geometric shapes, represented in memory by a code which denotes each letter's inherent arcs and angles. This code is not PostScript; but it does work, and work well. The Calamus code, since it deals with only arcs and angles, can display fonts and vector graphics to any scan device of any horizontal and vertical resolution. Both monitor and printer, in this case, qualify as scan devices; the constitution of the font itself is unaffected by the degree of resolution of the scan device—no more than an isosceles triangle would become scalene if it were made larger.

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The ST Control Panel

Whether 'Tis Nobler to Expand and Diversify. . .

D. F. Scott

Figure 3

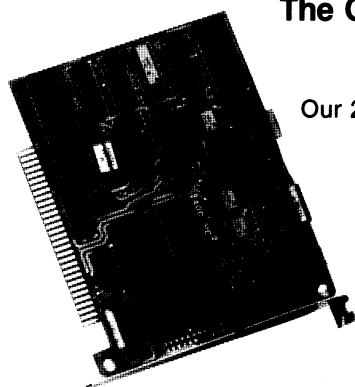
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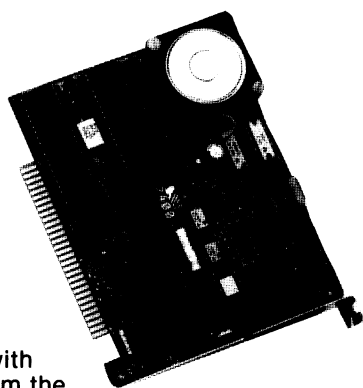
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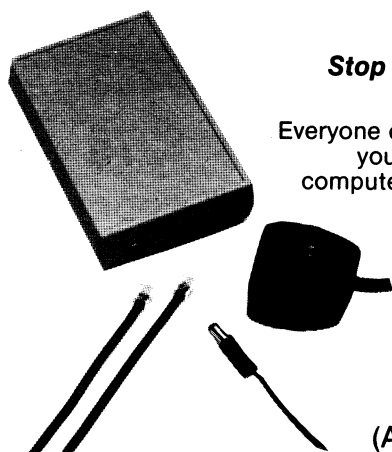
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ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST

► A CRASH COURSE IN CALAMUS

pearance. In this instance, the term "professional" refers to the quality of production one would expect from a craftsman whose livelihood depended mostly, if not solely, upon it.

The laser printer used for these samples was the American edition of the Atari SLM804—which, although inexpensive (around \$1500), does not contain the most resolute or the most well-guided laser on the market. A laser printer driver for this gismo must tame its wayward scan lines like a trainer breaks her horse. Lighter-intensity shading thus appears to have been beamed onto the page via satellite—one scan line can be twice as dark as the one above it. Despite this quirk which no program can possibly

eliminate, Calamus does generate the cleanest-looking text produceable on an SLM804; certainly the print quality from an HP LaserJet II can only be spectacular.

Figure 4 on page 431 illustrates this point so graphically as to be comical. Three print samples of two fonts each were generated on the same Mega 2 computer, with the same SLM804 laser printer. The first sample from the top comes from Calamus, showing its Times Roman and Helvetica ("Swiss") Bold 18-point type. Though only slightly grainy, the shape and form of the letters are so close to their typeset counterparts from professional proof sheets that the xeroxed output appears to have been traced from the proof sheet while

looking through a microscope.

The second proof, in the middle, comes from Timeworks Desktop Publisher, which was reviewed jubilantly by Ted Drude in these pages last July. DTP provides excellent support for Epson-compatible printers; but when sending images to a laser printer, it obviously falls far short of perfection. DTP uses GDOS, so its fonts are bit-mapped, and most likely were hand-drawn for each point size individually. In DTP's scaling system, the same font file used for 18-point lettering on an SLM804 would be used as the huge font on a dot-matrix printer with half the resolution or less; so in the same way that DTP's big fonts are inadequate on my little Panasonic, the small fonts are much too thin for the SLM804. Note also that the "boldface" font is produced in DTP by taking the straightface font and "shadowing" it a second time a few pixels to the right of the original, so that the vertical strokes are bolder, but the horizontal strokes remain much the same. Real boldface equivalently shifts the weight of the straightface in all directions, not just two; although it admittedly is possible to design a true boldface font for DTP (assuming we have enough RAM space for it).

The final proof, on the bottom of Figure 4, comes from Pagestream, the new and supposedly vastly-updated publishing program from the creators of Publishing Partner. Pagestream's font is a sort of bit-map/mathematical hybrid, which again is fine for dot-matrix printers but is very inadequate when xeroxed. It must be in the

numerical rounding of the values of the strokes which makes the left stem of the "u" in both fonts uneven with the right stem, and the lengths and widths of nearly all the serifs uneven with each other (the "Swiss" font, by the way, could not be boldfaced).

In all fairness to its competitors, Calamus is probably an inadequate program for use with dot-matrix printers, as a Lamborghini Countach is, in its own way, inadequate for suburban carpooling in residential areas.

The text entry method for Calamus is unorthodox with relation to its aforementioned competitors. It provides a text editor window, which actually contains a miniature word processor whose behavior is not unlike that of the old ST Writer. Formatting commands are written into the text by the program at single keystrokes, as whole words in the lower-case system font encased in square brackets; while the text itself to appear in the copy is displayed in a font resembling that of the "Scribe" interchangeable element on IBM Selectric typewriters. Text can be sent directly to the page window after it is edited, or it can be transferred to the Calamus clipboard which, by being capable of retaining several clippings of different categories at once, behaves in the manner that an operating system's internal clipboard should.

Margins and tabulations are not set in the text editor window, however, but by flags and downward-pointers placed on a small white bar above each text frame—which can be seen clearly in Figure 2. This way, tabulations and inset columns can be measured in inches

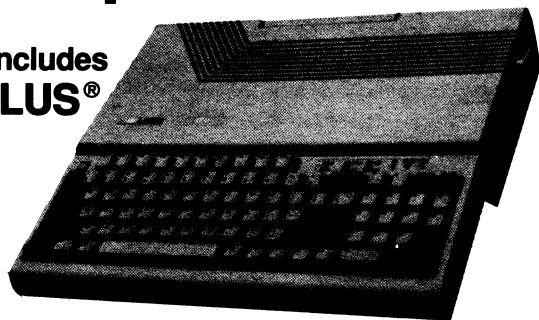
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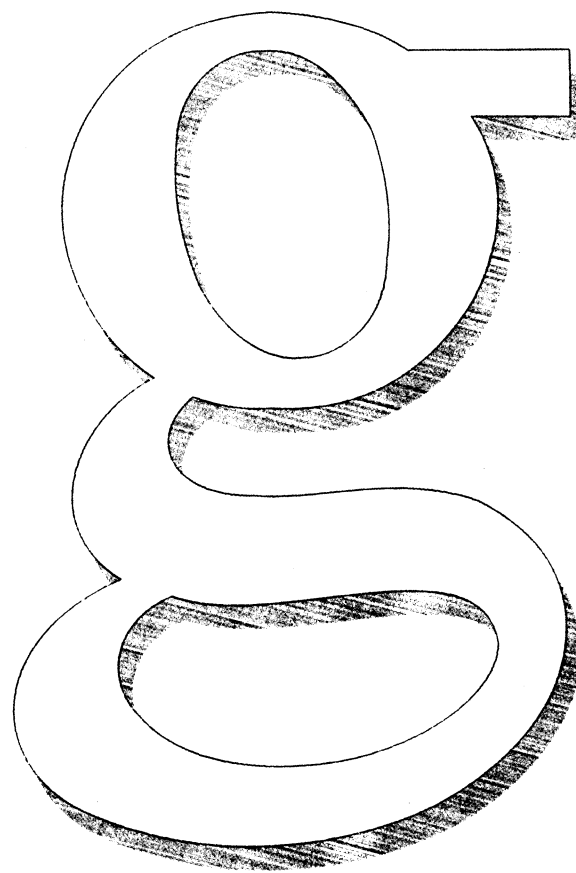


Figure 5

ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST ATARI ST

► A CRASH COURSE IN CALAMUS

rather than character spaces—which, obviously, have no set length. The direction of the flow of text between columns is set by placing boxed arrow pointer icons in the upper left and lower right corners of text frames. This way, when importing text from a word processor or from a long file in the text editor or on the clipboard, Calamus will know where to continue sending text in the page window when the first text frame runs out of space.

Calamus does not import text from very many brands of word processors, however; and although it claims to interpret 1st Word format, the program will crash—Indianapolis 500 style—when trying to interpret text from Word Writer, whose only real difference in

format from 1st Word is that it uses different characters for margins and tabulation.

Since the text frame in the page window receives its contents from an internal program source all at once, rather than gradually from the external keyboard, its appearance on the page need only be mathematically determined once, instead of continually as the letters trickle in from the keyboard. This is a much more elegant and efficient methodology, reducing the likelihood of program confusion.

Our final Figure—included just for the sake of beauty, is Figure 5 on page 434, a Times Roman letter “g” in outlined 400-point type, rotated by the program 33.3 degrees counter-clockwise,

with a shadow 45 degrees to the lower right, extended 14.2 points from the body of the letter, and shaded in 2% intensity. Calamus recognizes “points” by its true definition: as a measure of the area consumed by a normal-sized upper-case letter—such as A, N, or E rather than W, C, or I. I’ve been collecting a swarm of “Times 18-point” fonts from other programs and applications, each with sizes ranging from billboard-sized to insurance policy-sized small print.

Perhaps the primary difference between a Macintosh software reviewer and an ST software reviewer is that the Mac writer praises products for adhering to the rules of their computer’s operating system, and the ST writer praises products for breaking the rules. While the Mac realm continually seeks to adopt rigid guidelines, the ST realm seeks to overcome them.

So when I say that Calamus is somewhat of a breakthrough, the meaning of that term can be a little more concrete. When the elegant and historic PageMaker was introduced on the Mac, it too was a breakthrough product—having broken what was then considered the “laws” of the system, Apple programmers were provoked merely to claim PageMaker’s methodology as their new laws—retroactively to the program’s own creation. In a perfectly logical world, we can all abide by the same laws, seek the same goals, and exist on paper within the same intellectual community. Yet the art of programming is a blend of logic and abstraction; and in abstraction there are no laws—only concepts, which are in and of themselves perfect and immutable. Only in their execution are we as observers and reviewers allowed to detect flaws and propose alternatives.

So Calamus as a concept can and should be praised; but it will be the professional typographer who will demand perfection of execution. It is this user who will be laying down the laws. Although we cannot all be privy to the contents of those laws, we can be certain that when an extended hairline cursor forgets to clear itself when moved by the mouse, after having been preceded by a dialog box, or when the italic Times font is merely a tilted straightface font, what we reviewers may consider to be minor bugs may be deemed by typographers as Calamus’ most grievous faults.

It is here that we realize the Calamus marketing effort is not at all speaking

to the right person, or addressing the proper market. The manual—although it has an admirable design concept, indexing functions by their on-screen icons—reads more like a script from “Captain Kangaroo,” at one point it tells us that lines are tools to help us make a page look better. You can almost hear Muppets singing stanzas from these chapters. The manual isn’t only speaking to the first-time ST user, but to the first-time page designer, who is the person less likely to purchase Calamus than he would be PrinterMaster—specifically to make a “Happy Birthday” banner for his daughter’s next party.

While the manual speaks to the wrong group, the box containing the manual and the program speaks to nobody at all. Its plain white cover, besides reading “Calamus Desktop Publishing,” states only the licensing agreement, containing those penalties the onlooker may suffer by breaking the shrink-wrapping with his thumbnail. In all, it appears to be a box of generic corn flakes; while Timeworks DTP’s foldout box cover shows examples of screen appearances, as well as some print samples (apparently samples from some other program, but samples nonetheless). With Calamus’ American advertising limited mostly to word-of-mouth and excitement on the national telecomputing networks, the product is relying merely upon the persuasiveness of the software salesperson to sell the product—and hopefully he has a very sharp thumbnail.

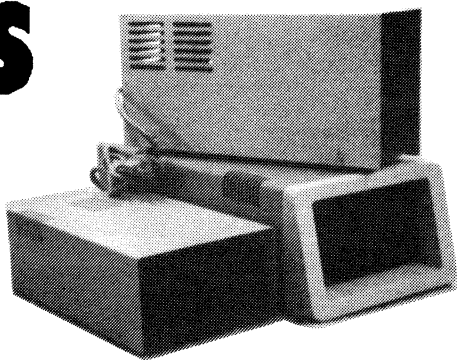
Despite this, Calamus does break one important barrier in the ST computing realm: a psychological one, which has kept producers from believing that high-cost, high-quality products could be produced for this minority machine whose chief market, to date, has been the first-time computer user luckily dissuaded from buying a more popular, less capable, brand. It is time to persuade some professionals; and this feat can only be achieved with the help of several more products which have the power and persuasion potential of Calamus.

Calamus by Harold Siegmund, Christian Griesbeck, Klaus Garms, P. Hansen, J. Janneck, et al.

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REVOLVER

Reviewed by Gary Futral

Revolver, by Intersect Software, has as its main function the ability to partition the memory of the ST and act as a switcher type program (hence, the name) and give one the ability to dump the contents of any particular partition to disk—called a rollout—to be recalled later. If this were all, I could stop the review right here and be finished. However, there happens to be a little more.

The manual states that what started as a project to develop a simple program to dump the memory contents of the Atari ST to disk, ended up being the development of what can almost be described as a new operating system for the computer. And so it just about is. A number of these features will be discussed herein.

Configuration-wise, to really get the absolute most out of this program one should have a Mega 2, 4 or an ST that has been upgraded past 1MB of memory along with a hard drive. However, this is not a prerequisite to utilizing the program, for many very useful things can be done with it on a 1MB unit and no hard drive.

To set up Revolver, one first runs the REVINST.PRГ that automatically transfers the REVLOAD.PRГ into an Auto folder. The manual cautions against using the desktop to transfer the program over because it is important for Revolver to be the first to run when the machine is turned on or cold-booted.

Once done, everything is ready to start up. After the computer has been restarted, the Revolver program will autoboot. One will be greeted with a pleasant tone and an announcement will be made that the first partition has been created encompassing half the memory of the ST. The message clears, and one is then presented with the normal GEM desktop. The Revolver program is now hidden away in the computer. To call up Revolver, one presses the Control and Shift keys simultaneously.

When Revolver is prompted a small rectangular box about the size of a dialog box appears in the upper left hand corner of the screen. It is divided up into various functions which, when chosen, open up into other functions and options. Here, one can choose to enter disk command mode, take a snapshot of the screen, reboot the system (cold or warm), enter VT-52 emulator mode, configure the system, rollin, rollout, switch or view (whew!). It's quite a lot to pack into that tiny space. In fact, it's just a tad too much. When working on the monochrome screen the space allotted for clicking on the mouse for each function is pretty tiny. The pointer has to be pretty much right on the nose to activate the function.

The next step in setting Revolver up is allocation of memory and partitioning. Although the default is two par-

titions each of equal size, this may be too much or too little depending on how much memory one plans to use or how many partitions one plans on operating simultaneously (not running simultaneously, mind you). A total of eight par-

titions can be set up with the smallest being 128K bytes. Once this is set up, one saves the configuration to the boot disk and proceeds to reboot each partition, loading the "rollins" as one goes along.

But of course before a rollin can be accomplished, one must have a "roll-out," a straightforward accomplishment. When at least two partitions have been booted up (don't forget to boot the second with Revolver or none of the

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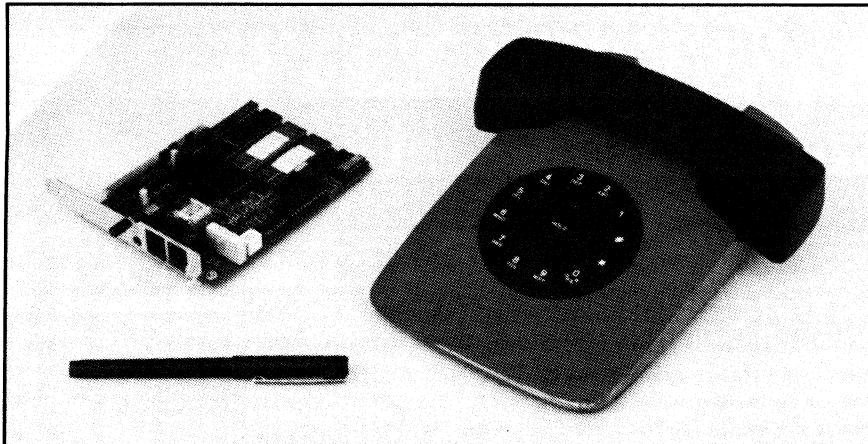
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► REVOLVER

other partitions will be accessible) call up Revolver, choose "Rollout," enter the partition number to dump, assign a name and go. Revolver will send to disk the entire contents of that particular partition including autoprograms, accessories and the like. Depending on what medium you are saving the file, the process can take a few seconds to a few minutes.

Switching between partitions is accomplished a couple of ways. One either calls up the Revolver box by pressing ALT-Shift together or one can proceed to the next partition by pressing CTRL-ALT-Shift simultaneously. The effect is the next partition will literally "slide in" replacing the other partition. If this is not needed and one only wants to view one of the other partitions, one can call up Revolver, select the "view" option and then with the mouse, "push" the current screen out of the way, exposing the contents of the partition of interest. All this produces visual effects that add a certain sophistication to the interfacing of this program. One of the good aspects of Revolver is that should a partition bomb, all is not lost. Luckily, none of the other partitions are affected. One merely reboots that particular partition with Revolver. I found this feature to be real handy when trying to load accessories that end up not behaving well together. One can call up Revolver, do any disk manipulations to get rid of an accessory, and then reboot.

Like I mentioned before, those with only a 1040ST will find this program useful to some extent. One way I've used it is to form two partitions, one with my word processor and the other with the Thunder! spell checking program. Now, without exiting the word processor I can spell check a document on the fly and not have to put up with the constant "dinging" of the real-time version of Thunder!. Those with a Mega 2 or Mega 4, of course, can do much more. For example, one can load both of Hybrid Arts' programs EZ-Score + and EZ-Track + and switch between the two with the greatest of ease.

Another very useful aspect of this program is being able to save to disk many heavily copy protected programs. With Revolver I was able to dump a program called N-Vision, a very good paint program, to disk. Revolver worked like a charm. Unfortunately, games which are probably the most heavily protected programs on the market don't behave very well with Revolver. Usually the game will enter a different mode, rendering the keyboard useless, thus making Revolver inaccessible, a point I might add is mentioned in the manual. I've tried Revolver out on two games, Captain Blood and Gauntlet, with no success.

One of the selling points of Revolver is speed. According to the manual, booting up a disk loaded down with accessories, autoprograms, and the like can take quite a bit of time, which is

very true. However, dumping the contents to disk and later rolling it in can be as quick or quicker, especially with a hard drive. Without a hard drive, well let's just say it kind of reminds me of watching ketchup pour out of a bottle—seems to take forever—actually about four minutes for a large partition. Rolling in a partition was better than twice as fast as rolling out.

I checked Revolver on a hard drive with stop watch in hand. The conclusion I have drawn is that if you start on an equal basis, that is, cold booting the system, sometimes Revolver is quicker, sometimes not. But keep in mind, utilization of a hard disk with or without Revolver is so fast that for most applications the difference is less than a minute either way. But if one has a program that does a lot of house-keeping, preprocessing of a file, vector calculations or require multiple manual manipulations on one's part to just get set up and speed really is a problem, then Revolver may be the answer.

Other features include a number of disk and memory management options that are very useful. Under disk commands one can copy, view, rename, hide, lock, move, search or append files. One can make, delete and even rename a folder. Formatting a floppy is also possible in either standard or extended format.

Under "configuration" one can turn off and on various features of Revolver as well as the ST. The key repeat or clicking sound can be toggled as can the opening message of Revolver, the slide-in effect, etc. Another feature one is able to toggle is the boot manager. When rolling in a partition one can select which autoprograms and accessories one wants to load into memory—a nice feature. One can also set up a RAM disk, print spooler, or even include a folder fix to go beyond the 40 folder limitation.

Is that enough or is that enough? Two more things. Service. The first time I called Intersect was on a Saturday thinking it was a long shot but—what the heck. To my surprise someone was there! We chatted and I asked a few questions. The person to whom I talked was very knowledgeable and helpful. I had heard about their service being good and now I can state first hand it's true.

As far as bugs and other related problems, there are none to report. This program is as near flawless as they can get. I had more problems with desk accessories working together than I had with Revolver working with them.

Now, if only Intersect Software could get Revolver to run the partitions simultaneously.

Revolver retails for \$49.95 and scanning the magazines I've seen, it's discounted to as low as \$29.97.

For more information contact Intersect Software, 3951 Sawyer Rd., Suite #108, Sarasota, FL 34233; 800-826-0130.